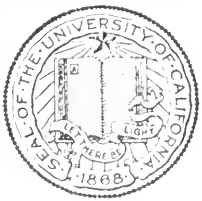

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AN INTRODUCTION

TO THE

THEORY OF VALUE

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ON THE LINES OF

MENGER, WIESER, AND BÖHM-BAWERK

BY

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PREFACE

THIS book has few pretensions to originality. The theory is that enunciated by Menger and Jevons, and worked out by Wieser and Böhm-Bawerk. I have done little more than take it out of its German setting, and pass it through my own mind. As the translator of Böhm-Bawerk's *Capital and Interest* and *The Positive Theory of Capital*, I may claim to have more than a superficial acquaintance with the work of the Austrian school, and this must form my credentials for the present *Introduction*. At the same time I must emphasise that it claims to be no more than an introduction. I do not consider that the last word on Value has been said by the Austrian school, but that seems to me no reason why the principles of the new theory should remain any longer beyond the reach of the ordinary English student. And in case it be said that I have stopped short of the most interesting part of the *Natürlicher Werth*, the application of the Value theory to the

theory of Distribution, I may explain that, in justice to Professor Wieser, I have preferred to put the translation of that most brilliant and suggestive book into the capable hands of one of my students.

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CHAPTER I

INTRODUCTORY

THERE is an understanding among economists, dating at least as far back as Adam Smith, that, in economic science and discussion, the ordinary terms of the industrial world are to be used in the sense generally attached to them in the industrial world. This has proved a misfortune for the science which is thus bound for ever to a loose nomenclature. It is, in particular, a misfortune for English political economy which has not the possibility, so enviable in German science, of combining a new predicate with an old stem in such a way that the combined word is exact and yet familiar. Hence very many terms in economics have a long and chequered history attached to them, as economists, in writing their systems,[1] tried to follow the usage of the market and the street, or to free themselves from its restraints.

No word has suffered more from this than the word Value. It is deeply rooted in popular conception

[1] The present position of economic science, as distinguished from many other sciences, is, perhaps, explained when we remember that, up till the last few years, almost every economist thought proper to write an entire "system."

and popular speech. Of all words used in economics it has most need of exact definition, because in that science the theory of value is the basis of everything. Yet the history of political economy is strewn with the wrecks of theories of value.

Every one knows Thornton's story of Sydney Smith retiring from the Political Economy Club, because his chief motive for joining had been to discover what Value was, while all he had discovered was that the rest of the Club knew as little about the matter as he did. Every one, too, has smiled at Mill's statement, in 1848, that there was nothing in the laws of value which remained for him or any future writer to clear up. And many drew a long breath of relief when Jevons threw the term overboard altogether, declaring that neither writers nor readers could avoid the confusion so long as they used the word.

But although it might be possible, by a very strict attention to proof sheets, to keep the word out of a book, it would not be possible to keep it out of the economist's mouth, any more than it would be to banish it from ordinary speech. And—happily, as it seems to me—the recent writings of the Austrian school have shown that we may retain the old familiar word, and yet attain the exactitude of scientific nomenclature.

There is a time-honoured classification to which is due much of the present confusion. In our great classic, the *Wealth of Nations* (Book i. chap. iv.), occurs the following well-known passage:

"The word Value, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that

object conveys. The one may be called 'Value in use,' the other, 'Value in exchange.' The things which have the greatest value in use have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water: but it will purchase scarce anything; scarce anything can be had in exchange for it. A diamond, on the contrary, has scarce any value in use, but a very great quantity of goods may frequently be had in exchange for it."[1]

. This passage, like many other passages in Adam Smith, does not say all that has been read into it by subsequent economists. It does not say that Use Value and Exchange Value are two great branches of one universal conception of Value. Nor does it say that they are entirely different conceptions. It merely says that the word *has* two different meanings. What concerns us, however, is the use that economists have generally made of this passage. They have quoted it with approval; shown that the two kinds of value do not by any means coincide; and have then gone on to discuss the latter as "economic value," or "what we mean by value in political economy." The best thing we can do, meantime, is to try to forget this old classification, and begin anew.

It does not require proving that Value, in whichever of its various senses the word is used, does not express any inherent property of things. Very often,

[1] The division is as old as Aristotle. "Of everything which we possess there are two uses both belonging to the thing as such, but not in the same manner; for one is the proper and the other the improper or secondary use of it. For example, the shoe is used for wear, and it is used for exchange; both are uses of the shoe."—*Politics* (Jowett), § 9.

indeed, we can scarcely help thinking of it as a quality of a material object,—particularly when it is an object of universal desire such as gold coin. But Mr. Walker's monetary creed, "Money is that money does," may remind us that even the value of gold coin is given it by the service it renders in a highly organised community, and that, if any substitute be given the confidence that gold commands, the same value will attach to it—"attach" but not "inhere." Sometimes, again, value is so strongly a personal experience that we are tempted to think of it as purely a subjective matter, and this is particularly the case among people who understand Ruskin's famous words, "there is no wealth but Life." The different value set upon any work of art by different individuals, classes, or nations, is sufficient proof of this.

But although it is almost impossible to use the term without suggesting an inherent property,[1] value always implies a relation. It seems, in fact, to arise in the

[1] The following passage, from a writer to whom we owe much in the present economic reaction, is worth quoting:—

"Value is the life-giving power of anything; cost, the quantity of labour required to produce it; price, the quantity of labour which its possessor will take in exchange for it. 'Value' signifies the strength, or 'availing' of anything towards the sustaining of life, and is always twofold; that is to say, primarily, intrinsic, and secondarily, effectual. Intrinsic value is the absolute power of anything to support life. A sheaf of wheat of given quality and weight has in it a measurable power of sustaining the substance of the body; a cubic foot of pure air, a fixed power of sustaining its warmth; and a cluster of flowers of given beauty, a fixed power of enlivening or animating the senses and heart. It does not in the least affect the intrinsic value of the wheat, the air, or the flowers, that men refuse or despise them. Used or not, their own power is in them, and that particular power is in nothing else. But in order that this value of theirs may become effectual, a certain state is necessary in the recipient of it. The digesting, breathing, and perceiving functions must be perfect in the human creature before the food, air, or flowers can become of their full

relation of Means to End. Value, then, will take various forms according to the "end" to which it is related. The end may be, directly, the Wellbeing of man, whether that wellbeing be conceived of as the ideal good of humanity, or the social ideal current at the time, or the realisation of an individual character, or merely the gratification of individual desire. Or the end may be some mechanical or technical result, which has no direct reference to personal wellbeing, or at least admits of being considered, for the moment, as a merely objective or intermediate result. Answering to these two classes of "ends" we may divide the phenomena of value into Subjective or Personal Value and Objective Value. These expressions are not by any means perfect,[1] but they are the terms generally used by the Austrian school, and they are perhaps the best we can get.

Value in the subjective sense we may call, generally, the importance which a good is considered to possess with reference to the wellbeing of a person. In this

value to it. The production of effectual value, therefore, always involves two needs: first, the production of a thing essentially useful; then the production of the capacity to use it."—(Ruskin, *Munera Pulveris*, i. § 12.)

I quote this passage, not as agreeing with it, but partly on account of its suggestiveness, partly to show how the idea of a relation is, even by such a careful writer as Ruskin, spoken of as something inherent in one or other of the related members.

[1] For instance—to say nothing of the fact that all economic ends must be subjective—of the four ways in which Wellbeing may be conceived, the three first may be considered objective as compared with the subjective fourth, while the wellbeing of man generally—particularly the ideal good—may very well be called the only objective end in contrast to the accident of a technical result. But, as it is impossible to keep the economic vocabulary clear of the philosophic, we may be satisfied if these names are definite enough to keep before our minds the broad lines of the division indicated above.

sense a good is valuable to me when I consider that my wellbeing is associated with the possession of it—that it "avails" for my wellbeing.

Value in the objective sense is a relation of power or capacity between one good and another good. In this sense a good has value when it has the power of producing—or "avails" towards—some objective effect. There are, consequently, as many objective values as there are objective effects. Thus while the subjective value of coal to me is the amount of good I get from the fire, its objective value is the temperature which it maintains in the room, or the amount of steam it can raise in the boiler, or the money it brings me if I sell it. This kind of value is very much synonymous with the word "power" or "capacity"; it is as common to speak of "heating power" as of "heating value."

There is no doubt that "Value" is generally used, in ordinary language and thought, in either of these senses. But there is also no doubt that powers or values of the latter sort *in general* do not enter into economic study at all. We have nothing to do with the heating value of coal, or the resisting power of iron, or the fattening value of oil-cake; these are purely physical or technical matters. But, inside this class of Objective Values, there is one species which has an economic interest, and that is, the "power of exchange" or "purchasing power." By this is meant the capacity or power of a good to obtain other goods in exchange. Of course the word "power" is also misleading. No good has this power in itself. It is, at best, a power conferred on goods by the complex machinery of an organised economic community, and it does not exist outside of a system of exchange.

It is a power that lies in the connection or relation of two things, and not in either of the things. Jevons very well called it a Ratio of Exchange. But it is purely an "objective" relation as we have defined it; just as objective, for instance, as heating power. When the quarter of wheat in the market exchanges for 40/, we say, indifferently, that the "exchange value of the wheat is 40/," or that "the purchasing power is 40/," or that "the ratio of exchange between the wheat and the shillings is as 40 to 1."

It has been the dream of economists to explain all kinds of value from a single universal conception, but so far the result has only been to group heterogeneous elements under a common name. It may be possible, I think, to connect them all under the general conception of "that which avails," or under the relation of Means to End; but whether much is gained by this for economic science I should not like to say.[1]

Here, at any rate, we shall follow the line which has led to good results among the Austrian economists, and consider Subjective and Objective Value in general as two independent conceptions accidentally associated in common usage.

But while we hold this as regards Subjective and Objective value in general, we shall find that there is a close and necessary connection between subjective value and that one branch of objective value just referred to, Objective *Exchange* Value. In the latter part of this book it will be shown that this latter

[1] Böhm-Bawerk, like Neumann, while acknowledging that the two conceptions have many internal and external relations, and that both spring undoubtedly from one common root, thinks that any more universal conception, which should embrace them both, would be *ganz leer und schattenhaft*.

Value, while, in itself, an objective, and, as it were, a mechanical power, is a superstructure on the subjective or personal estimates of value put upon goods by buyers and sellers within a market. In short, we shall have to vindicate Jevons' assertion, now put forward as a text of the Austrian School, that "Value depends entirely on Utility."

From what has been said the reader will be prepared for our claim, that, in economics, when the word Value is used without qualification, it should mean Subjective or Personal value, and not Purchasing Power. The first and the main work of the theory of value, then, is to inquire into the nature, causes, and standard of Subjective Value.

CHAPTER II

THE ANALYSIS OF VALUE

Political Economy generally is based on the analysis of economic conduct. We are not at liberty to lay down new lines of classification and category, nor even to give new names to economic phenomena. We have to take our categories and our vocabulary alike from the industrial and commercial world, and our most original work in this department is no more than the interpretation of a life which is, for the most part, unconscious of its own laws. For instance, a category of "the useful" or "the valuable" which practical people did not recognise as containing useful and valuable things and no other, would be quite unscientific. True, the economist has sometimes to show that the practical world is unfaithful to its own principles, but he can only do so after extended study of the economic organism has yielded these principles. The theory of value, therefore, must begin with an analysis of what the word means in the mouths of ordinary people.

A man values food, clothing, shelter, and the like, because they minister to his physical life, and he values music and literature because they minister to what he calls his "higher life." As a nation, we value the Mazagine rifle because it can kill at two miles, and many forms of art and literature are highly valued

because they minister to corrupt desires and moral decay. A collector values a piece of ugly old china because it is old and rare, just as most ladies value their diamonds because everybody cannot wear diamonds.

Taking these instances as fairly typical, and collating the common ideas out of them, we seem to learn three things about value.

First, that in probably the great majority of cases, the word has some direct or indirect reference to human life. On the whole, one would be inclined to say that the root idea of the valuable is that which avails toward life.

Second, that men, as not only imperfect in nature but erring in judgment, have made an easy extension of the term "human life" to cover "human desire," and count things valuable because they satisfy some want. The economic "want" is not necessarily a rational or a healthy want—and political economy, as primarily analytic, must not be censured for the statement, nor condemned as if it approved of the fact—but simply a want, and the things which satisfy such wants we call "goods." The *desirable* is interpreted in economics by the *desired*.

Third, that the element of scarcity somehow plays a large part in many, and seems to have a share in all, estimates of value.

Were it not for this element of scarcity we might conclude that the "valuable" and the "useful" were synonymous terms. Few writers have been careful to keep the two conceptions sufficiently separate, and the distinction which we have now to draw, while contained in Ricardo, was not scientifically formulated till the appearance of Menger's *Grundsätze* in 1871.

The economically Useful is that which is *capable* of satisfying the want of man—always meaning by "want" no more than "desire."[1] Corresponding with this conception is that of the "Good."[2] To constitute a good four things, according to Menger, are required: (1) a human want, (2) certain properties in an object which make it capable of satisfying a human want, (3) the knowledge of this capability, (4) power to dispose of this object in the satisfaction of want.

In these two conceptions, the Useful and the Good, there is no reference to scarcity.

We shall find the Valuable separating itself naturally from the Useful if we look at what are called the free gifts of nature. Air, water, light, are recognised by every one as useful. But are they valuable? Economists without knowing it, most people would answer in the negative, although certainly there is reason to suspect that they base this answer on the fact that they "could not get anything for them." Again, those scarce things which we seem to value just because they are scarce (as rare statues and pictures, scarce books and coins, wines made from grapes of one limited locality, etc., to use Ricardo's examples,) have always a background of usefulness, as satisfying some social, or class, or individual desire.

[1] "Anything which an individual is found to desire and to labour for must be assumed to possess for him utility. In the science of Economics we treat men, not as they ought to be, but as they are."—Jevons, *Theory*, 2d Edition, p. 41.

[2] It is one of the absurdities of our economic vocabulary that, where we wish to express the singular of "goods," we have to use "commodity" or some such word. In my translations I have made no scruple of rendering the honest German *Gut* by its literal equivalent, and it is in this sense the word is used above and throughout this book. It will be noted as we go on that there is a difference between simple goods and "economic goods."

Evidently Usefulness or Utility[1] is the larger conception of the two, and embraces Value. But if all valuable things are useful, while all useful things are not valuable, value must emerge at some particular limiting point of utility. Value, then, will be based on utility—utility limited in some particular way, but still utility.

[1] Perhaps it is not too late to suggest that our word Utility—never a good word, and now actually misleading from philosophical associations—should be replaced by the word Usefulness, which certainly better conveys the idea of capability.

CHAPTER III

THE DIFFERENCE BETWEEN UTILITY AND VALUE

UTILITY and not Value, says Wieser, is "the supreme principle of all economy; where value and utility come into conflict utility must conquer." The statement is a very suggestive one. The economic goal of civilisation is to turn the whole natural environment of man from a relation of hostility or indifference into a relation of utility. Certain goods we have from nature without money and without price, and the incessant effort of the industrial world is *in the direction* of bringing all goods nearer to that category. Indeed some of the necessaries of life have already been brought so nearly to that condition that states and municipalities occasionally pay the small remaining price, and distribute them as heaven does the rain. But the effort to cheapen production generally is nothing else than the effort to increase utility at the expense of value. For value reflects utility, but the mirror is too small to hold all the picture. To use Wieser's words again, "Value is the calculation-form of utility"—an expression which will be appreciated if we realise how impossible it is to estimate the utility of a harvest, how easy to calculate its value.

Value, then, is a much less comprehensive conception, and does not emerge till a certain limitation is put

upon this utility. But the limitation is not an arbitrary one. To drain a river of a few hundred gallons, or even to drain it all but a few hundred gallons, will not necessarily give the remainder any value. To change utility into value there must be, not only a capability of satisfying want, but a felt dependence of some want on the particular good containing the utility. The proper relation of value to utility may be described as the relation of a positive condition to a capability. As capable of quenching thirst all water is useful, but it does not obtain any value till some limitation of the available quantity makes it the indispensable condition of a satisfaction. The water led into a city may come from a stream which, as a whole, flows to the sea unvalued, but, in this city, it conditions the wellbeing of thousands of people, and obtains a value from the satisfaction of wants that are dependent on it and conditioned by it.[1]

If, then, the distinction between Value and Utility, so essential to clearness of thinking, is to be maintained, it will be by attaching the former to an indispensable and felt condition, the latter to a general capability of ministering to human wellbeing.

Thus we may say that, while utility is the importance which a good possesses as generally *capable* of ministering to the wellbeing of a subject, Value is the importance which a good possesses as the *indispensable condition* of the wellbeing of a subject. Or more fully: Value is the importance which a good acquires as the recognised condition of something that makes for the wellbeing of a subject, and would not be

[1] It is worth noting that Jevons, with all his mathematical exactness, did not maintain this distinction. He speaks, for instance of the utility of water sinking gradually to zero (pp. 47, 48).

obtainable without the good.[1] It cannot be too firmly grasped then, that the relation between utility and value is *quantitative*, and that the same thing may or may not have value according to change of circumstances, or difference in points of view and comparison.

It may be advisable to put this in another way. The first thing the economist sees in man is that he stands in a relation of want to the world outside him. Economically man is a complex of wants, some physical, some intellectual, some æsthetic, and so on. And the higher man rises in the scale of spiritual being, the more numerous and varied are his wants. Now want is in itself a painful feeling; at least, a feeling of incompleteness. As an animal man knows instinctively, and as an intellectual being he learns by experience, that certain things or arrangements in the outside world are the objects which such a feeling craves: as they are supplied to the organism in which the wants inhere, the feelings of want, gradually or immediately, fade away, and feelings of satisfaction or pleasure supervene. In time the satisfaction fades, the wants reappear, and the process begins over again. Thus the wants of man's life, whether these wants are wise or unwise, natural or acquired, constitute a demand for satisfaction. Each individual has his quota of wants, and the sum total of all wants makes the community's demand. To meet this demand the working portion of the community is set producing. The whole end and aim of the industrial organisation of society is to put the matter and forces of nature into shapes

[1] Menger's definition is "Die Bedeutung, welche concrete Güter oder Güterquantitäten für uns dadurch erlangen, das wir in der Befriedigung unserer Bedürfnisse von der Verfügung über dieselben abhängig zu sein uns bewusst sind."—*Grundzüge*, p. 78.

capable of satisfying this demand, and these shapes, now recognised as "good," society significantly calls "Goods."

Now if, in any class of goods, the supply is not sufficient to meet this demand for satisfaction (either as regards the individual or the community), some want goes unsatisfied; the painful feeling of emptiness points to some good or other as the condition of a certain wellbeing; the relation of dependence between person and thing is established, and value emerges. If, on the other hand, the supply of any class of goods is so great that every demand is met, and yet there is such a surplus that no ordinary waste will cause scarcity, then no want goes unsatisfied, and value does not emerge. Suppose that a housewife is in the habit of using ten gallons of water a day for various domestic purposes. If the well, from which she draws her supply, holds just ten gallons and no more, then every gallon is the condition of a definite use or satisfaction, and every gallon has a value—the test being that, if one gallon is lost, some domestic purpose is not suited. But if the well yields twenty gallons, the loss of even ten gallons involves no loss of wellbeing to the housewife; no want goes unsatisfied; no value emerges. And, again, if the wants increase to eleven, or the supply sinks to nine gallons, then certain wants go unsatisfied, and value emerges.

In short, the centre of value is within us. It is only by association that we transfer to goods the value which we obtain through the consumption of them. We attach importance to them only as we find that our life is incomplete or impossible without them. Thus water, air, etc., being, in their totality, conditions of our life, we attach value to them as a whole, and

indeed speak of them as "infinitely valuable." But we do not attach value to any individual portion of them, because, where there is enough to allow of waste, our lives are not *dependent* on any individual portion.

Here we begin to understand how the theory of value lies at the basis of all economic theory. The only goods we "economise"—the goods which alone are objects of economic care—are the goods that are insufficient, or just sufficient, to meet our wants. Contrasted with them are the "free gifts of nature," meaning by the expression, such things, adapted to man's use, as are presented to us by nature in superfluous abundance. As goods which we economise, therefore, are the only goods which we recognise as conditioning our satisfaction, we may say that, while all goods, by definition, have utility, only economic goods have value.[1]

[1] In view of the loose way in which we use "economic" and "economise," Menger's definitions are worth remembering. When men recognise that their wellbeing is bound up with the command over certain goods within certain periods of time, and that such goods are likely to be insufficient for their demand, their impulse is (1) to get such goods into their possession or disposal; (2) to preserve the useful properties of the same; (3) to decide which are their more important and which their less important wants, and to satisfy the former only; and (4) to so dispose of the goods as to get the greatest possible result or satisfaction on the whole, and to obtain every individual result with the smallest possible expenditure. "The activity men direct to those ends, in its totality, we call their 'economy,' and the goods which stand in these quantitative relations, as the exclusive objects of that economy, we call 'economic goods.'"—*Grundsätze*, chap. ii. § 3.

CHAPTER IV

THE SCALE OF VALUE

If the cause of a good having value is that the satisfaction of some want is dependent upon it, the degree or amount of value must, one would imagine, be measured by the importance of the dependent want; that is to say, by the amount of wellbeing its satisfaction conditions. But here most people will hesitate. They would, probably, be willing to admit that utility is, in a general way, the cause of value, or, like Ricardo, that utility is "absolutely essential to exchangeable value." But they are shaken in this belief when they are told that things of great utility, like bread, are little valued, while things of small utility, like diamonds, are very highly valued, and that it is this contradiction which led to the distinction between "value-in-use" and "value-in-exchange"—practically to the abandonment of the latter.

We have here a difficulty of the theory of value which comes to us as a heritage from the old economy. Old classifications are more easily dismissed than got rid of; and it will not be wasted time if we employ this chapter in pointing out how Adam Smith hopelessly confused utility and value by the introduction of the hermaphrodite "use value."

We have already defined the economically Useful

as that which is capable of satisfying the want of man. If utility, then, is relative to human want, obviously before pronouncing on what has great and what has small utility, we must classify the various wants, and arrange them on some sort of scale. The familiar expression, however, "One man's meat is another man's poison," might be taken as a text to show the difficulty of classifying wants. There are certain wants that require periodical or continuous satisfaction, such as food and warmth. These wants seem to tie us to the earth, and they keep us perpetually in mind of our physical limitations. However high we soar into the regions of intellect and spirit, hunger and cold bring us to earth again; and if these wants are not satisfied the animal nature asserts itself, and we are ready to sell our birthright for a mess of pottage. Such wants, then, are fundamental and universal, but there are two very notable circumstances connected with them. One is that they are limited. More meat than the organism requires clogs the wheels of life; more than a certain amount of clothes is a burden, and so on. The other is that these fundamental and limited wants are precisely the ones for which nature makes the most abundant provision. There must be many millions of people who have never known what hunger is except by hearsay, nor imagined the torturing cold of a night on the street.

But, on this simple and, so far, measurable basis of necessary and limited wants, we rear a superstructure of another kind of want. Of the distinctively human wants there are many that become necessary from the individual or social development of intellectual or spiritual beings, and, beyond these, again, there are the innumerable desires, caprices, follies, and so on.

Now all these are unlimited in their demands: here "the appetite grows by what it feeds on." As civilisation or wealth progresses new wants awaken, and the old circle of wants expands. This circumstance makes classification of such wants all but impossible. Between the wants of the savage or the child and those of the educated man or delicately-nurtured woman, there is a long gradation of almost infinite fineness. How are we to put in one category the "hunger" which is satisfied among members of one class by bacon and beer, and among members of another class by costly dishes and wines and hot-house fruits; or the "love of dress," which in one sphere demands "a black silk and a gold brooch," in another, diamonds and old lace? Yet the fact that goods may be purchased at prices from a farthing upwards proves that the community *has* classified its wants, and said that such and such wants are higher or lower than others. In other words, we find exchange existing in all communities, even the simplest, and exchange presupposes that we have already arranged our wants on a scale, and said that the satisfaction of such and such wants confers a high value, and the satisfaction of such and such a low value. What is the principle of this scale?

Adam Smith, and all who have followed him in paraphrasing his text "a diamond has scarce any value in use," certainly referred to a scale of wants, and considered this scale so important, and so universally recognised, that they had to separate off the value measured by it (use value) from the value measured by money or barter (exchange value). But if we inquire what this scale is, we have some difficulty in answering.

There is a rough but sometimes convenient division

of goods into Necessaries, Comforts, and Luxuries. Corresponding with this classification of goods we should consider the wants satisfied by "necessaries" as the most important; and in the first rank of utilities, therefore, we should put goods necessary to sustain life, as food, clothes, shelter. Next would come goods necessary for health and fulness of life, and thus good food, good clothes, good shelter might be considered in the second rank of utilities. Lastly, we should put goods required for the refinements or for the artificial appetites of life, and corresponding with them we should have music and pictures, liquor, tobacco and so on. It is easy to see that the sanction or principle of this scale is a negative one. It is not based on the satisfaction we get from goods, but on the consequences which will ensue to our lives if these wants go unsatisfied. Food is in the first class of goods, because here death follows unsatisfied want. Tobacco is in a subordinate class, because the want of it causes, at worst, discomfort. And diamonds are in the lowest rank of useful goods because the loss of them involves a quite trifling loss of wellbeing. This is a scale of wants with a definite principle.

But it is not difficult to see that it is a scale adapted to circumstances so simple as to have no resemblance to any known form of society. Possibly the economists' favourite classic, Robinson Crusoe, has had something to do with the making of it. Certainly there never was a people who divided out their labour to satisfy successively the wants of such a scale, producing first for life, then for health, then for pleasure: such a division would evidence a higher level of reason than our communities have reached, for it would be founded on a theory of life which had put

subsistence, health, and pleasure into a definite relation. The very suggestion that the loss of diamonds is "trifling" would condemn it: it would justify the reproach the economist has sometimes to bear, that "it is well seen political economy was written by men!" The fact remains that this is nobody's scale: the poorest savage, the worst paid mill-girl, the most refined woman, will put ornament only second to bare necessaries.

Yet, strangely enough, a scale something like this was the one by which the older economists measured utility. In the interpretation they gave to "use value," they assumed that utility is relative to mere physical life. Those who speak of diamonds having no use value, and of food as having infinite use value, seem very much to draw their ideas, not from the life of men but from the life of cattle. It is possible to draw out a scientific catalogue of what things and amounts and conditions will put a sheep or bullock into the best condition for the market, just as it is possible to consider the labourer as a force of so many foot-pounds. But the economic end of the sheep is—mutton, while the economic end of labour is—the labourer. That is to say, the "life" by which economists, as distinguished from butchers, must measure utility, is the life of a spiritual being for whom and towards whom all economic effort exists. To such a being it is inconceivable that bread should have the highest use value and diamonds none at all.

Compared with this purely theoretical scale, let us inquire of facts as to the scale to which men in ordinary life refer goods.

Consciously or unconsciously every man whose means or wealth or resources are more limited than his wants—and this is, practically, the case with

human beings generally—has a scale of wants in his mind when he arranges these means. On the basis of this scale he satisfies what are his more urgent wants, and leaves the less urgent unsatisfied. But which are the more urgent wants on his scale? Are they determined by anything like the classification just spoken of? If so, how is it that a tramp with sixpence in his pocket will spend threepence on a bed in a lodging house, a penny on bread, and twopence on tobacco?

This by itself is sufficient to show that Adam Smith's graduation of wants is quite misleading in the present connection. When we ask about the "degree" or "urgency" of any individual want, we get no information by determining to what class or kind it belongs—whether, for instance, it is the demand for a necessary or the desire for a luxury. The craving for food, as a necessary of life, belongs so conspicuously to the first class of wants, that we do not so often speak of wants of subsistence, as of Needs of subsistence. The desire for liquor, again, some people would scarcely dignify by the name of "Want" at all. Yet many people will attach as much importance to the one as to the other. If we are to judge by his expenditure, the working man may graduate his wants thus:—bread and meal, house, liquor, tea, tobacco, clothes, meat; while a rich man may spend more on his horses than he does on his house, and his grocer's bill be less than his florist's. The fact seems to be that, with the scale of wants which each man makes for himself, the graduation by classes or kinds has very little to do. From the consideration already pointed out, that certain wants are fundamental and necessary, the class must have something to do with it, but

the other two considerations, the limited nature of these wants and the abundance of provision for them in most communities, throw the former consideration quite into the background.

There is one case, however, where Adam Smith's scale comes nearly true;—where the income is just sufficient, and no more, to cover the barest wants of man as a living being. If a seamstress has to sustain life on one shilling a day, she will take care to dispose of the shilling in such a way that she spends on food just enough to keep life in, on clothes, enough to keep her warm, while the meanest roof that will keep out the rain will satisfy her "want of shelter." And in proportion as we come near to this direst poverty will the class have more to do with the scale. Even the seamstress, however, will probably jump the class of "comforts," and spend her last penny on the highest concrete want among the luxuries of the poor, tea.

This was the first mistake made by the old economy in the matter: it based "use-value" on a false or, at least, unduly limited, conception of utility. The second —and more subtle—was in keeping no clear distinction between this utility and the so-called "use value." For want of this distinction it was overlooked that, in the relation between wants and goods in which value emerges, the *supply* of goods plays a part. Value emerges when a good becomes the condition of a satisfaction; it is conferred by the dependence of a *felt* want, not of a *possible* one. Hunger, for instance,—understanding by that the overmastering craving which puts all other feelings into the background—is not a felt want if food lies around like the manna on the Israelites' plain. The nearer we get to making any object of want similar to a gift of nature, the less

value has that object—not that its utility is any less indispensable, but that the abundance of supply has abolished the relation of dependence. A want never felt, would, of course, not be a want at all. But a trifling want unsupplied attains an importance for wellbeing which elevates it into a cause of value. Now, in the case of goods adapted to satisfy the necessary and universal wants of mankind, the "necessaries" of life, as no man can escape from these wants, there is always a fixed and steady market for these goods. Wherever we have such a market in economic life we may be sure that the brains of men and the resources of nature have been taxed to the utmost to make the supply abundant and cheap. Competition always assures this at least. Hence the tendency of economical progress is to assure the satisfaction of these fundamental and limited wants; in proportion as this is done do men escape from that dependence of satisfaction which gives value: and thus many goods tend to come nearer to the free gifts of nature. The old theory, then, in taking hunger as the type of the most urgent want, was not dealing with wants, but with possibilities of want. Want is, at bottom, a feeling of incompleteness. It may indicate something wanting in our physical frame which, if entirely unsupplied, will cause death. But if a few mouthfuls are sufficient to make the want disappear for the moment, and if there be no probability of these mouthfuls ever being wanting, we have been too hasty in giving it the highest rank among human wants. It is like estimating the greatness of a danger by the loss of life which it might cause, without considering the precautions taken to prevent it. To consider food as having the highest use value because the want of food means death, is like

considering the presence of water a great danger because a man might be drowned if he fell in; it reminds one of the schoolboy's proposition, "Pins have saved many thousands of lives.—By people not swallowing them."

To sum up then: In assuming that bread and water had a higher "use value" than iron, iron than gold, gold than diamonds, the older economists evidently referred to a theoretical scale of wants which is not recognised by any man as *his* scale; and as they could not ignore the fact that practical men, in making their valuations, put diamonds above gold, gold above iron, and iron above bread, they had to divide their so-called "use value" sharply off from the value which ruled the economical transactions of the world, and call the latter "exchange value." And what we say, is, that the phenomenon of bread with small value and diamonds with much value, is not in contradiction with the theory of the cause of value laid down in Chapter II. Bread is little thought of, and diamonds much thought of, because, when all the circumstances are taken into account—the circumstance of limitation of want and the circumstance of provision for want—the importance to concrete human want of the one is little, and of the other is much.

Note

The Austrian writers, whose economics are strongly coloured by the utilitarian psychology, usually put the matter in the following way. The course of the satisfaction of a want may be represented by a diminishing scale. Of most wants, material and intellectual alike, it is true that the pleasure got from the first draught of satisfaction is the keenest. The complete satisfaction, then, of any want might be represented by a graduated scale diminishing to zero—beyond zero, the pleasure turning into satiety and disgust.

If we combine this scale with that other alluded to in the text—that which has the negative sanction of loss of wellbeing —we get a scheme like the following :—

I	II	III	IV	V	VI	VII	VIII	IX	X
10									
9	9								
8	8	8							
7	7	7	7						
6	6	6	.	6					
5	5	5	.	5	5				
4	4	4	4	4	4	4			
3	3	3	.	3	3	.	3		
2	2	2	.	2	2	.	2	2	
1	1	1	1	1	1	.	1	1	1
0	0	0	0	0	0	0	0	0	0

Here the Roman figures indicate classes or kinds of wants, the Arabic, the concrete wants, or part wants, in each class. We thus see at a glance that the more important the class, the more important are the concrete wants that stand highest in the class : that, even in the highest class, there are concrete wants which are outweighed by concrete wants of almost every other lower class : and that there are classes of want, like IV and VII, which are not satisfied gradually, as in the assuaging of hunger, but where want breaks off at a high level and does not emerge again till wants of much inferior classes have been met.

As an illustration this scheme has a certain value, but to my mind it suggests more objections than it settles. The division of wants into kinds or classes, whether the principle of that division be determined by the nature of the sensations or by the objects which satisfy them, requires a better psychological basis than has yet been shown. For instance, a generic want like that called Needs of Subsistence, is about as vague a conception as could well be imagined. And, again, on the "calculus of pleasure and pain," it seems to me that the satisfaction of want generally involves degrees and levels of physical, intellectual, and æsthetic feeling that cannot be represented by any such simple diagram. For these reasons—and also because I do not think the theory of value is strengthened by seeming to rest so much on a utilitarian psychology — I have not included the *Sättigungscala* in the text. There are some ingenious and interesting calculations on the subject in Wieser, (*Natürlicher Werth*, p. 27), which I have added in the Appendix

CHAPTER V

THE MARGINAL UTILITY

THUS far we have seen that, utility being the general relation in which all goods, by their very definition, stand to human wellbeing, value is that higher, more intimate, more limited relation in which some particular importance to human wellbeing is conditioned by the having or losing of some particular good, and a relation of actual dependence is established between the want and the good. We pass now to the positive consideration of the measurement of value.

If one good stands over against one want; that is to say, if the satisfaction of a single want is dependent on the possession of or power over a single good, there is no difficulty: the value is the entire utility which the good affords in the given case.

But the estimates of value which practically concern us are not so simple. We must face the fact that most goods which we have to value are present in stocks, and that, at the same time, most goods are capable of satisfying several wants. Water, for instance, may be used for drinking, for washing, for cooling, for ornamental fountains, etc., as books may be used for reading, for lending, for ornament, for packing, for waste paper and so on. But these are wants of very varying importance, and the ques-

tion is: Which of these wants is it that determines the value? This important point cannot be too plainly put, and I follow the Austrian writers generally in risking being tedious rather than obscure.

A sailor and his dog, the sole survivors from a wreck, have been tossing on a raft for many days. Land is in sight, but still far away, and the provision is reduced to a couple of biscuits. Both dog and man are equally famished, and it is evident that, unless each gets a biscuit, one of them will not live to reach the shore. Here we are confronted with the opposing claims of two wants, that of the sailor and that of his dog; and, as the sailor is, presumably, the valuer, the two wants are of very different importance to him. The question is, What measures the value of the biscuits? According to our formula the answer will be found by ascertaining which is the dependent want —which is the satisfaction that the biscuits condition.

At first sight one would say that the actual destination of the biscuits determined this, but that would be to say that two exactly similar biscuits, both available to the one man, and available under exactly similar conditions, were of different value. In this dilemma one little consideration easily determines the point. If one of the biscuits were lost, which want would go unsatisfied? For the want which is satisfied if the good is present, and unsatisfied if it is not, is evidently the dependent want.[1]

The dependent want, in this case, is that of the dog; that is, it is the *less important* of the two wants.

[1] There are two typical cases where valuations are made :—where a man values something he *has*, with the view of parting with it (in selling, giving, lending, etc.), and where he values something he *has not*, with the view of acquiring it. As will be seen from above, the two methods of valuation come practically to the same result.

To put it now in more general terms. As we saw, the (necessarily) limited resources at each man's disposal he, consciously or unconsciously, apportions out among his various wants according to his particular scale, taking care that the more urgent ones are provided for before the less urgent. It is obvious that, in these circumstances, there is a *least* want that is satisfied, although ordinarily we are not conscious what it is. But it immediately comes to the front when, from any cause, our resources are diminished. If a working man's wage is reduced from twenty shillings to nineteen shillings a week, he becomes painfully conscious that some want, hitherto satisfied, must go bare, and the particular want on which he economises immediately points out which was his least, or least urgent, or final want. Here all the wants previously satisfied are still satisfied with the exception of this last one, and thus none of them depended on having or losing the shilling. Again, all wants under this, just as before, remain unsatisfied whether the shilling is there or not. Only this marginal want is satisfied if the shilling is present and unsatisfied if absent: it alone, then, is the dependent want.

To recur to our illustration. So long as the sailor had the two biscuits, one of them would go to satisfying the higher want (his own), and the other to satisfying the lower want (the dog's), and either biscuit was capable of satisfying either want. But, when one biscuit was lost, the one that remained was instantly elevated to satisfying the higher want only: it rose, literally, in value because then it was not a man's *or* a dog's life that depended upon it but a man's only: what was lost was the means of satisfying the *dog's* want: the less important of the two wants

was the dependent one; and it is the relation of dependence, as we said, that determines value. We may formulate the proposition thus. The value of a good is measured by the importance of that concrete want which is least urgent among the wants satisfied. And we find that what determines the value of a good is, not its greatest utility, nor its average utility, nor yet its least conceivable utility, but its marginal utility in the given circumstances. Jevons called this the Last or Final Utility. We shall follow Wieser literally in calling it the Marginal Utility. Simple as this proposition is, my experience in teaching tells me that it is not easily retained so as to be used. For this reason I do not consider it superfluous to confirm its truth by testing it in various circumstances. I cannot improve on Böhm-Bawerk's admirable illustration, and only modify it in non-essential particulars.

A modern Robinson Crusoe has just harvested five sacks of corn. These must be his principal maintenance till next harvest. He disposes of the sacks, according to the scale of his wants, in the following way. One sack he destines for his daily allowance of bread. Another he devotes to cakes, puddings, and the like. He cannot use more than these in farinaceous food, so he devotes a third to feeding poultry, and a fourth to the manufacture of a coarse spirit. With these four sacks, we shall say, he is able to satisfy all the wants that occur to him as capable of being directly satisfied by corn, and, having no more pressing use for the fifth sack, he employs it in feeding dogs and cats and other domestic animals whose company is a solace to his lonely life. The question is: What to him is the value of a sack of corn? As before, we ask: What utility will fail him if he lose

one sack? It is inconceivable that Crusoe should have any doubt as to his answer: he will, of course, apportion out the sacks that remain as before;—two to food, one to poultry, one to spirits, and he will give up only the feeding of the domestic animals. This is seen to have been the Marginal Utility—the utility on the margin of economic employment or use. What he loses, then, by losing one sack is his former Marginal Utility; and this marginal utility undoubtedly determines the value of a single one of the five sacks. But here we come upon another feature of this valuation. If the marginal utility determine the value of one, it must determine the value of all, as, by hypothesis, all sacks were alike, and therefore all interchangeable. Thus we obtain the universal formula for the valuation of goods in stocks. The value of a stock of similar goods is the value of the marginal good multiplied by the number of goods in the stock.[1]

To follow the illustration out. If another sack gets lost, the marginal utility is found to have been that of the making of spirits: if still another, the feeding of poultry. Finally, suppose Crusoe to be reduced to the one sack: the satisfying of all lesser wants is out

[1] The reader will understand that, in an illustration like this, it is unsafe to use definite figures to express subjective estimates. The above formula is quite familiar in ordinary exchange where, as we shall see on p. 49, purely subjective valuations have been corrected and levelled by social and commercial valuations. If stocks of entirely similar articles are sold openly in a market, the calculation of the total value is;—units of stock × last price obtained per unit. But, if we were to represent the decreasing (subjective) values, as we should be apt to do, by the figures, per sack, of 5, 4, 3, 2, 1, we should conclude that the value of a stock of one sack and that of a stock of five sacks is the same ($5 = 5 \times 1$). But in a case like Crusoe's, or in similar economic circumstances—say in a sieged town—the subjective value of one sack, as sole stock, is infinity.

of the question: the losing of it means death to him: the marginal utility and the highest utility are one.

Again, suppose Crusoe as merchant bargaining, say, with the Spaniards. If he have five sacks he will sell one at a low rate; if he have four, he will ask a higher price; if he have only one, he will not part with it for any money. Extend this to the phenomena of an industrial community. The five sacks represent a larger supply than the four, the four than the three, and so on; and, as the supply decreases, the value of the single sack rises. Now one of the commonest phenomena of a market is that, *ceteris paribus*, increase of supply brings down value and decrease of supply sends it up. To put it in terms of our theory: When the quantity of any good produced is increased, the good is put to lower levels of use; the last want supplied determines the last satisfaction; and this last satisfaction determines the value of all the stock. Here we have the explanation of the old paradox of value. If any commodity is available in such quantity that all possible wants for that commodity are supplied, and yet there is a surplus of the commodity, the marginal utility is zero, and the value of the entire stock is nil. And it is also explained how diamonds have a high value compared with bread. The quantity of diamonds available is never sufficient to satisfy more than a fraction of the desire for them: the marginal utility, then, is high. Bread again is, happily, to be had everywhere at a comparatively small expenditure of labour, and the immense supply, as compared with the limited wants, puts the marginal utility low.

CHAPTER VI

DIFFICULTIES AND EXPLANATIONS

This chapter will be devoted to answering certain doubts that naturally arise in the reader's mind, and to disentangling some complications which hide the working of our fundamental law.

I. Some goods are perishable, some durable; some are single goods, some are groups of separable elements; and, of these groups again, some are composed of homogeneous, some of very heterogeneous elements. Consequently there is a difference in the way in which goods give off their use, and the marginal utility is not always perfectly obvious.

Thus the first warning we require to take to ourselves is that we must make sure what really *is* the good we are valuing. In the illustration of last chapter it was the *sack* of corn, not the individual grains of corn; it was, that is to say, a group of homogeneous elements considered and valued as a whole. Obviously this is a very different kind of good from, say, a horse or a piano. As durable goods these, economically, are a complex of all the services which they are capable of rendering during their lifetime as goods: their value, therefore, is to be determined by the least use to which their services, one year with another, are put, and not by the least use to which, exceptionally, they are put.

Otherwise we should conclude that the utility which a hunter may sometimes put forth in drawing a plough, or that which a piano may render at the rash hands of a schoolgirl, are the marginal utilities determining the value of these goods.

Neglect of this consideration led Schäffle to make the objection that, in desert journeys, the traveller's skin of water, according to our theory, would be measured by the least use to which the water was put: that is to say, the portion of water employed, say, in washing utensils would measure the value of the whole skin, while, practically, everybody can see that a good, the possession or non-possession of which meant life or death to the traveller, could not be measured by its washing value. The answer is that here the good which is being valued is the whole water-skin, not the individual constituents of it, and what measures its value is the amount of wellbeing that would be lost if the *skin* were lost. If, on the other hand, we were valuing *individual* cubic inches of water in the skin, or if we were valuing *one* skin among many, then Schäffle's calculation would be quite right: that the least use to which the good being valued—the cubic inch or the skin—was put, determined the value of that particular good, the cubic inches or the skin.

Similarly, if we ask what is the value of a water-supply to a city, we are putting a different question from "What is the value of the individual gallon of water?" The supply, as a whole, is the indispensable condition of a collective human want; the unit of valuation here is not the gallon, but the whole supply. So with the value of a mill stream. We must not confound it with the valuelessness of water as drinking water. What the miller values and pays

for is the head of water, and on this the individual cups or gallons used for drinking make no difference. Indeed, we have here one of the exceptional cases mentioned in the beginning of last chapter, the valuation of a single good. The water-supply in the above illustrations cannot usually be put alongside of similar supplies and considered as a member of a stock. Its value is measured by the entire utility which it affords.

A more difficult case is presented by the phenomenon of "capitalised value." A quarry or mine which will be worked out in fifty years is valued at a sum much less than the sum of its fifty annual outputs. These annual outputs are seen in a perspective of value diminishing according to their remoteness in time. Say that the first year's output is £100, the second (at an interest rate of 5 %) will *now* be worth only £95·23, the third, £90·70, and so on. Adding these together we obtain a sum which is very much less than £100 × 50, and we express it—conveniently if somewhat misleadingly—by saying that the capital value is so many years' purchase of the annual rent. In other words, to determine the marginal utility of a durable good involves a calculation of the agio on present goods as against future.[1]

II. We must guard against an easy misunderstanding of the expression Lowest Use—and indeed of the whole theory. Most goods permit of two or more entirely distinct kinds of use: a book, for instance, may be read, or it may be used to light a fire. On the principles just laid down, one might think that it is the latter which determines the value of the book. There are

[1] The difficult subjects of capital value and interest on durable goods are fully treated in Böhm-Bawerk's *Positive Theory of Capital*. See particularly p. 339.

two mistakes here. The first will be seen on referring to the terms of our cardinal proposition. It is the least use to which a good is put, and is, of course, *economically* put, that decides—not the possible uses to which it may be put. If we were valuing two exactly similar copies of one book, and if the *only* uses to which these copies could be put were, to be read or to be burned, then the value of each would be waste paper value.[1] But this is an almost inconceivable supposition. Books are made to be read, and to enumerate lighting of fires among the possible *uses* of a book is to make the mistake already alluded to—of not asking what is the good that is being valued.

The second and more important mistake is that here we are presenting a case which is essentially different from the typical one given in last chapter. In the case of the peasant we were valuing one of a stock of five similar goods, and said that the use to which the fifth sack was put determined the value of the five. In other words, we had a *stock* of goods competing for employment. Now we have employments competing for one good, and, where a good or stock of goods is not sufficient for all possible employments, of course the only economical possibility is that the highest use, and so the highest marginal utility, should decide the value.

III. It follows from what has been said that the value of a good is almost never measured by the utility it actually affords,—its utility to *me*,—but by a foreign utility. In our first illustration of the two biscuits, the utilities actually afforded by the biscuits were, the satisfaction of a man's hunger and the satis-

[1] Just as the nutritive value of the horse competed with its draught value during the siege of Paris.

faction of a dog's hunger; but the value of the particular biscuit which actually satisfied the man's hunger was measured by the use of the biscuit to the dog. In modern circumstances, where the existence of money and the presence of stock permit of goods being instantly exchanged for other goods, we can—and do almost unconsciously—change the disposition of our resources so as to shift the loss (which will define our marginal utility) to the least sensitive part.

Suppose that a thrifty housewife has laid in her winter stock of butter, and that by some accident it gets spoiled. Will she be likely to do without butter for the rest of the winter? She will, of course, replace the butter, and do without some comfort or luxury which she would otherwise have allowed herself. That is to say, she will shift the loss to the least sensitive part of her total expenditure. Some part of the total satisfaction must be given up, and this will always be the least in her particular scale. In the circumstances the satisfaction she now denies herself indicates her least urgent want. Not—be it remembered—her last conceivable want, or her last actually felt want, but the last want that was satisfied when she had the means, or the first that was deprived of its satisfaction when she had to curtail her expenses; in short, the last want satisfied.

Similarly, if I am calculating the loss of value which I suffer from a horse going hopelessly lame, I do not estimate it by the satisfactions of riding and driving I should lose. I replace the horse by economising in other things—perhaps by doing without my summer holiday—and the value of the horse is measured by the "foreign" utility of the summer holiday.

IV. There is a question which naturally rises out of

all that has preceded. The value of goods is measured by the lowest, or least, or last use economically made of them:—What determines that this or that particular use is the last? In other words: What determines the *level* of the marginal utility? The answer is;—the relation existing between a man's wants and the resources or provision he has to meet them. If his wants are few and his resources many, the marginal utility will be low, for here all the more urgent wants will be satisfied, and the only wants left to satisfy will be insignificant ones. The value of an additional sovereign to a rich man, for instance, is very small simply because he has few wants that remain unsatisfied. The same is the case if wants are what we might call "weak"; to the plain liver the value of the additional sovereign is perhaps as small as to the rich man. If, conversely, a man's wants are many and strong, and his means scanty, the marginal utility will be high, and the sovereign will find wants, and urgent wants, waiting to welcome it. "It comes nearly to the same thing," to quote Böhm-Bawerk, "to say Usefulness and Scarcity are the ultimate determinants of the value of goods. In so far as the degree of usefulness indicates whether, in its way, the good is capable of more or less important services to human wellbeing, so far does it indicate the height to which the marginal utility, in the most extreme case, *may* rise. But it is the scarcity that decides to what point the marginal utility actually does rise in the concrete case."

CHAPTER VII

COMPLEMENTARY GOODS

THE ultimate goal of economic effort is not the obtaining of goods but the satisfaction of human want, and we are not finished with our subject till we have traced the finished good to its end and *raison d'être* in affording this satisfaction. In the present chapter we have to consider cases where several goods contribute to one satisfaction, and to find what influence this has upon their separate values. In such cases the "good" we have to value is, properly speaking, a group, and in the various forms taken by these groups we meet with some puzzling and far-reaching peculiarities.

The class of Complementary goods, to use Menger's term, is much wider than we are apt to suppose. In consumption goods it tends to increase with the variety of modern wealth and the development of new tastes. Many of our enjoyments depend on the co-operation of a great many factors, of which usually one is prominent, and the others only assert themselves on rare occasions. Thus the part played by that insignificant commodity, salt, in most of the pleasures of the table, is never appreciated till the want of it—say, at a picnic—suggests how indispensable a complement it is. Among productive goods, again, where the division of labour

is yearly increasing the number of factors which work together in the making of every good, the complementary nature becomes even more apparent. The first thing to be noticed here is that the value of a group, *as a group*, is determined by the marginal utility of the group, not of the separate members. But, as each group may on occasion be broken up, the interesting question is as to the distribution of value among the members, the difference in value between goods as complements and goods as isolated articles.

The simplest case is where the single members of a group are all useless in any other form but that of a group, and are at the same time economically irreplaceable. In valuing boots, for instance, the "good" is the pair; if I lose one I lose the entire utility for which I valued the pair. In such cases—which are, of course, comparatively rare—if I have had the pair and lose one, I lose the entire value of the pair: if I have one and obtain another, I gain the entire value of the pair. Here, then, the value of one single member of the group is the same as the value of the whole group. This case, however, is really only of importance as introducing the others which follow; under the assumed conditions we are dealing with a good similar, say, to a pair of compasses or a pair of spectacles, which we can divide into two only at the cost of the compasses or spectacles; that is to say, it is only externally a group.

A more common form is where the group can afford one utility, and the individual members of it in isolation can afford another but a less utility. Thus the utility of a well-matched pair of roans will be valued at a figure much higher than would be realised by selling the horses separately. Suppose that the

utility of the pair is represented by 100, and that of A roan and B roan separately by 50 and 40: what is the value of A? To calculate it from the side of the owner: if he has A and B he has a value of 100; if he lose A he has only B, and B separately has a value of only 40. What he has lost is the difference between 40 and 100. Or, from the side of the buyer: if he gets B he obtains 40; if he gets A in addition he obtains 100; the value of A, as before, is the difference between 40 and 100. Here, then, A has a different value as complement and as isolated good: in the one case it is worth 60, in the other 50. If we take the case of a well-matched four-in-hand team we have a more complicated instance of the same; the whole team makes the most highly valued group, but each pair within that again has a higher group value than the sum of the isolated values which would be attached to each single horse. This case of valuation holds in the very numerous cases where goods are in sets: if we "break the set" the separate members have a less value than they had as complements.

A third case is, where, as before, the group can afford one utility, and the individual members of it separately can afford a less utility, but where some members are replaceable and some are not. In this case the replaceable members can never obtain any other than the one value: however indispensable they may be to the making of the group, goods that can be easily replaced cannot rise higher than the competition of all other uses allows. Although a load of bricks, for example, was absolutely indispensable to finish the building of a house, the load could never obtain any higher value than that determined by the marginal

utility of bricks generally: that is, as determined by all the uses to which bricks generally are put. To the irreplaceable member, on the other hand, falls the remainder of the value of the group. Thus suppose a group A, B, and C, with a group value of 100, and isolated values of 10, 20, 30. If A and B are articles of large manufacture and great demand, while C is a monopoly good, A and B will get 30 % of the value, and C the other 70 %, although, if the other members were not present in the group, the only value C could realise would be 30.[1]

[1] How far the theory of Complementary Goods admits of being applied directly to the problem of distribution of product among the various factors is still matter of controversy. Böhm-Bawerk considers that it is the key which will lead to its solution. The line which this suggests would be something like the following. Labour and Capital enter into the composition of all productive groups: in proportion as they are abundant and mobile do they enter into competition with *all* labour and *all* capital, and become perfectly replaceable. In entering into products, then, they can never secure more than their outside value—that fixed by all their employments or uses. The surplus in the price of each product goes to the monopolist factor, whether that monopoly be caused by natural and site advantages of land, mental and technical qualities of undertakers and workers, peculiar conditions of process, or the like. And in proportion as these factors lose their monopoly, does the value of the group shrink; if all the members were to become replaceable, as when first-class land in other countries becomes available through rapid and cheap carriage, or education makes unskilled labour the exception, the group value, as distinct from the combined isolated values, would disappear.

Wieser, again, considers that this is no more than a valuable suggestion. What guidance, he asks, will this law give where there are several irreplaceable members, and how is the outside value of replaceable members given if not in other combinations of complementary goods which in turn require to be split up into their factors? He points out acutely, in reply to Menger, that, to estimate the proportion contributed by any factor by the loss which would accrue if that factor were absent, is to reckon too much to it, as the loss of a factor from a co-operation will generally disorganise the group and cause more damage

than its presence would cause gain. Instead of using the doctrine of Complementary Goods in this way, he proposes to find, by a series of equations, what each factor positively contributes; not, of course, the physical share, but the proportion of value which may be economically "imputed" to it. A great part of the *Natürlicher Werth* is taken up with this doctrine of the "Zurechnung," which is treated in Wieser's usual strong and graphic manner.

CHAPTER VIII

SUBJECTIVE EXCHANGE VALUE

BEFORE passing from subjective or personal value, there remains for consideration one point, which is at once important in itself, and decisive against the old division of the total phenomena under discussion into value in use and value in exchange. To the subtle analysis of Böhm-Bawerk and Wieser we owe the recognition of *subjective* exchange value, as distinct from the purely *objective* exchange value which we have to consider in following chapters. Aristotle said that every good had two uses, "both belonging to the thing as such": similarly we say that every good has two subjective importances, that which it can directly afford, and that which the things got in exchange for it can afford. A little reflection will convince us that subjective value contains these two distinct branches, use value and exchange value.

It may occasionally suit the economist, for purposes of illustration, to discuss the economy of a Crusoe—particularly in problems of production where the essential features of society, as at once a producing and consuming body, are obscured by the division of labour—but in the simplest form of society known to experience there is always some barter or exchange of goods. But wherever this is the case every good acquires a

second possible value, as an exchange form of other goods, or a potentiality of obtaining other goods. In the organism called society each man becomes—at least potentially—richer or poorer with the increase or decrease of its wealth. Some part of our neighbour's goods becomes available for the satisfaction of our want whenever exchange becomes possible between us, inasmuch as the actual existence of his surplus—not to mention his enjoyment of it—depends on our co-operation. Thus the goods which were first valuable to us personally, as possible satisfactions of our want, get a secondary value. Every good becomes potentially a number of other goods, and the range of our possible satisfactions becomes by so much widened. The presence of exchange, in short, gives us a choice of values.

These two kinds of value are possessed in varying degree by different goods. In some the exchange value may be greater than the use value—as, for instance, when a change in productiveness in the community increases the quantity or improves the quality of things I can get in exchange, while the use value of things I can give in exchange remains unaltered: in others it may be less, as in all cases where habit and association root the goods in our affection. What has to be emphasised is, that the position which every man occupies as a member of society gives to all goods of personal use this other value, and that, as we saw on p. 36 whichever of the two valuations we place higher determines the total subjective value. In other words; there is, as we shall see later, a direct and an indirect satisfaction of wants, corresponding to the division of goods into consumption goods and production goods. Just as grain may be

used for bread or for seed, and just as the value of the grain is determined by calculations of marginal utility which take both these into account as possible uses, so has every good, subjectively considered, a use value and an exchange value, and the total subjective value is calculated on the consideration of both of these as possible uses of the good.

On the other side, there is no doubt that the analysis of exchange value into subjective and objective is subtle, and that it is difficult to keep the two distinct. The real difference may be most easily seen by an illustration. Say that the first edition of *Modern Painters*, which cost me £18 some years ago, now stands in the booksellers' catalogues at £30. As a cultured man it may be supposed that my pleasure in the possession of this first edition is measured by something like £30. But suppose I now suffer a reverse of fortune. The subjective use value of the book remains as before: the objective exchange value also remains as before: but the *subjective exchange* value has immensely risen. In my former circumstances the price of £30 was a bagatelle: now it may perhaps pay my insurance premium: this second subjective value is distinct alike from subjective use value and objective exchange value.

In former chapters we have seen that the value of a good is determined by the marginal utility which depends on it: in the same way this secondary value will be determined by the marginal utility which depends on the things obtained in exchange for the good. This being so, the *amount* of this exchange value will depend on two things: (1) on the objective value, or price, of the goods—which determines what or how many things can be got for them: (2) on the existing state of the owner's want and provision—which

determines what place the satisfactions, obtainable from the goods got in exchange, have in his scale of living. For instance: the use to me of the one riding horse which I can just afford may be quite definite, as giving me a pleasant form of exercise. But its subjective *exchange* value depends (1) on the sum of money I could get for him, and (2) what part this sum of money plays in my scale of living.

And here we come in sight of the decisive distinction between subjective and objective exchange value. The objective exchange value of the horse is the same to every one; the subjective exchange value varies from person to person according to the previous state of his wants and resources. An article in a poor man's house which he can, if necessary, sell for 20/ has a very different importance to him from what a similar article has to a rich man. 20/ is a large part of a £50 wage, but a very small proportion of a £1000 income.

The necessity of drawing this distinction lies in the fact that Money has no subjective value other than an exchange value. As the tool of exchange the only use to which we can put it is to part with it. It is one of the virtues of a good money that it is never "used," say, as a metal, but passes from hand to hand without question in satisfaction of debt. And yet, as a pound note in a man's pocket is the temporary form of so much bread, meat, lodging, clothes, etc., it is clear that the pound note to the working man has just the marginal utility which these things have. To use Wieser's terse expression: The exchange value of money is the anticipated use value of the things it buys.

CHAPTER IX

FROM SUBJECTIVE TO OBJECTIVE VALUE

THUS far we have spoken of each man's wants as ranged on a scale; in correspondence with these wants each man attaches degrees of importance to the goods that come within his knowledge and control, and ranges *goods* also on a similar scale. We have seen that, owing to the infinite subjective differences in man on the one hand, and the effect of provision on the dependence of want on the other, every man's scale is different from every other man's. In other words, every man, subjectively, attaches his own valuation to goods. As no man, however, liveth to himself, these valuations come together and are compared in every act of barter and exchange. The reflex influence of the valuations that each man meets in any market, however simple, is very great; constant contact of man with man in exchange assimilates the valuations of all, till, unconsciously, we come very much to regard the average valuation made by the people we meet as our own valuation. For instance, in buying an article, if we looked solely and entirely to what that article represented in life, pleasure, satisfaction, self-realisation —however we name our subjective centre—we should, perhaps, value it at 100. But if we meet everywhere with people who value that article, say, from 50 to 60,

it is inevitable that our estimate should be strongly affected thereby. And this explains how that, notwithstanding the enormous differences in temperament, culture, and conditions, the valuations which meet on a market do not diverge so widely as one would expect. If we consider that, of three men who bid for a horse, the value of it to A may depend on his being a country doctor, to B, on his being a hunting man, and to C, on his having a sluggish liver, we could scarcely understand how these different values come to be assessed within a few pounds or shillings of each other, if it were not for this kind of arbitrage.

When we say, then, that men who meet as exchangers of different goods put their own subjective valuations on the articles they bring to market, we must be understood to mean valuations that are not more subjective than man himself is. A man's valuations can no more escape being to a great extent the valuations of other men, than he himself can escape being what other people "make" him.

How it comes that each man can compare the importance he attaches to a commodity, as conditioning the satisfaction of want, with the importance of a piece of metal or paper whose only "use" is to pass on, belongs to a department of our science on which, happily, we do not require to enter. It is sufficient for us to say that, in the modern community, we measure "goods in general" by one good, and we grow up so familiarised with the current money scale that no one sees anything strange in valuing, say, a Bible, at thirty pence, or even its author at thirty pieces! In other words, if I enter the market as a buyer for a horse, with the figure of £50 in my mind as the limit of my bid, it is not from a judgment that the

horse to me is equal to the satisfaction I could get from fifty gold sovereigns, but from a judgment that the enjoyment or use to be got from the horse is equal to the other personal satisfactions that fifty gold sovereigns represent—to all the current wants of my life which I measure, in my own mind, by that same scale, and count worth £50. The money value is only the universal language in which we express our valuations generally. Thus through habit and education it comes that it is more definite and intelligible, either as regards ourselves or others, for us to say that a horse is worth fifty sovereigns, than to say it is worth so many quarters of corn or hundredweights of iron.

CHAPTER X

PRICE

In an early chapter it was said that the one class of objective values which had an interest for economic science was the (purely objective) value in exchange or purchasing power. We escape using this cumbrous expression if we substitute the word Price. The two terms are of course not equivalent: power in exchange is a different thing from the quantum of goods obtained by that power and measuring it: but obviously the two are inseparable, and the laws of the one are the laws of the other. Our task, then, is the theory of price.[1]

It would perhaps not be very difficult to argue that a universal theory of price is impossible. The attempt to base an *entire* economy on the motive of Self-Interest has not been so successful, that many of us are willing to risk the credit of the whole science any longer on an assumption that was never quite true, and is becoming less so as wealth increases and is increasingly spent with a directly moral aim. But, if anywhere, in certain great departments of exchange

[1] As might be expected of a reaction against the old position claimed for value in exchange as the sole economic value, the Austrian economists have devoted their energies mainly to the neglected branch, Subjective Value. Böhm-Bawerk alone has followed out the marginal theory of value in detail into the theory of price.

the old competitive laws do hold. In stock exchange dealings, in banking, in international transactions, in great organised markets, as iron, wool, cotton, grain, and so on, the egoistic motive is so strongly marked that it is possible to found on it a law which comes, perhaps, as near a scientific law of exchange as we can expect. It may be described as the law of price under perfect competition. It disregards all motives but those of *advantage from the exchange*—always, of course, within the recognised limits of law and respectability. In such markets the "strong" exchanger (buyer or seller) is the one who attaches most importance to the good he wishes to get, and the least importance to the good he gives in exchange—as we can see from the simple consideration, that the bidder most likely to carry away a picture from a studio is the one who thinks most of the picture and least of his money, while the artist most likely to clear his stock is the one who thinks least of his pictures and most of the money he will get for them.

The assumptions on which the law is based are the following: that the market is an open and organic one; that buyers and sellers are ordinarily conversant with the conditions of stocks and competition; that each party will make an exchange whenever he sees a gain in it, and will prefer a greater gain to a less.

They are the assumptions of any ordinary commercial "market."[1] For simplicity's sake, we shall begin

[1] In justice to that large class of economists who strive to suit the stubborn fingers of the economic man to the lute of social life, it may be said that their dislike of the egoistic motive is due simply to its being egoistic. If struggle and fight is the necessary and healthy condition of industry and commerce, then the utmost demand of the

with the simplest possible case, and gradually come to the more complicated.

1*st Case.* (Isolated Exchange.) A peasant B wishes to buy a horse, and his circumstances are such that he puts the same estimate upon £60 as he does on the possession of a horse. His neighbour S has a horse which he values as worth £20. Here there will certainly be an exchange, as, at a price, say, of £40 both make a gain of £20 over the amount at which, in the worst case, they are willing to exchange. But if the exchangers act on the principle "better a small profit than no exchange," the price may be anything above £20 or under £60, and the actual figure is determined by the "higgling of the market." Here, then, the price will lie between a minimum of the seller's subjective valuation and a maximum of the buyer's subjective valuation.

2*d Case.* (One-sided competition of Buyers or

reformer must be a fair field for every one and no favour: if the ethics of commerce are necessarily the ethics of war, we may weep over the fallen but we shall not waste our time crying mercy. But a great many people—and these not the worst economists—think that the economic field may justly be regarded, not as a battle but as a harvest field, where the greatest results are to be had, not by fighting against, but by working with each other. For the last hundred years, they would say, men have been dazzled by the new possibilities of life which the rush of wealth has opened up, and the solidarity of mankind has been broken up by the eagerness of each to get hold of an advantage which, obviously, could only be had by the few. Now that the world is passably rich, should we not draw breath, and try to organise the industrial life with an end to the *character* and *conduct* of the workers? Ideas like these have a way of making the egoistic motive seem a little contemptible. But, in justice also to the practical man, it must be said that he ridicules all this mainly because he does not understand that it is a new point of view—the subordination of the economic to the higher life—and because his spiritual advisers have long allowed him to think that the business life has canons of its own, with which "theoretic" morality may not intermeddle.

Sellers.) First, of Buyers. Suppose, instead of one peasant, there are three, B_1 B_2 and B_3, bidding for one horse. B_1 as before values a horse at £60: B_2 considers a horse the equivalent of £50: B_3 considers it worth £40. Only one can get the horse, but as S values his horse at £20 only, any of the three buyers may get it. Accordingly they will bid against each other till the figures reach £40, when B_3 retires from the competition: at £50 B_2 is excluded, and B_1 is left the sole competitor. Then, as in the former case, the price will be fixed somewhere between £60, the subjective valuation of the purchaser, and £50 that of the most capable of the excluded competitors, or, as we should say, between the subjective valuation of the successful and that of the first unsuccessful buyer.

The case of one-sided competition of Sellers is the exact converse of the above.

3d Case. This is the ordinary case of what may be called complete competition—where there are several buyers and several sellers of similar articles. Suppose the case of six buyers each wishing to purchase a barrel of apples, and five sellers each wishing to dispose of one barrel. We assume that the barrels are all of equal quantity and offered simultaneously, and that the competitors on both sides know their own interests and follow them.

Buyer 1 values the barrel at and will pay any price under		18/6	Seller 1 values the barrel at and will accept any price above		13/
Buyer 2	,,	18/	Seller 2	,,	14/
Buyer 3	,,	17/6	Seller 3	,,	15/
Buyer 4	,,	17/	Seller 4	,,	16/
Buyer 5	,,	16/	Seller 5	,,	17/
Buyer 6	,,	15/			

Here the subjective valuation which the first three

buyers put upon the apples is so high that they are, economically, "capable" of purchasing from any of the sellers. But, naturally, they will not pay more than necessary, and the transaction begins by low offers on the side of the buyers, and holding back on the side of the sellers. Let us follow the course of the bids methodically.

At 13/6	there are	6	Buyers and	1	Seller
14/	„	6	„	1	„
14/6	„	6	„	2	„
15/	„	5	„	2	„
15/6	„	5	„	3	„
16/	„	4	„	3	„
16/1	„	4	„	4	„
16/6	„	4	„	4	„
16/11	„	4	„	4	„
17/	„	3	„	4	„

Thus we see that at any price from 16/1 to 16/11 there will be as many buyers as sellers, and the conditions will have emerged at which exchanges take place and price is determined. For at that price four buyers and four sellers will make a gain by exchanging. The fourth buyer was willing to pay anything under 17/ and the fourth seller willing to clear at anything over 16/; thus both gain by a price which falls between 16/ and 17/, while the three more capable pairs gain proportionally more. And at that price the valuations of the remaining competitors, be they few or many, are unable to have any effect on the exchange. 16/1 will not suit Buyers 5 and 6, who are not willing to give more than a maximum of 15/11 and 14/11, and 16/11 will not suit sellers who demand at least 17/1.

Again, any price above 16/11 would cause the fourth buyer to withdraw, and any price under 16/1

would cause the fourth seller to withdraw. The price, then, will be determined somewhere between the subjective valuations of the last buyer and the last seller —what we may call the Marginal Pair.[1] And the most capable exchangers are proved to have been those who put the highest valuation on the commodity they wished (apples or money), and the lowest valuation on the commodity they had (money or apples).

[1] To be exact, this limit may be more closely drawn. Böhm-Bawerk's law is that the price is determined between the valuation of the last buyer and that of the first excluded seller as Higher Limit, and the valuations of the last seller and first excluded buyer as Lower Limit, viz. between the valuations of the Marginal *Pairs*. But, for reasons which will shortly be evident, it is scarcely worth while adding to the difficulty of the subject by too great exactness.

CHAPTER XI

SUBJECTIVE VALUATIONS THE BASIS OF PRICE

At an early stage of this book it was said that we should find Objective Exchange Value to be a superstructure on Subjective Value. The typical scheme in last chapter will abundantly prove this. It is the valuations with which the parties on both sides enter the market that decide;—first, what parties will take part in the competition; second, what is the degree of each party's "capability of exchange"; third, who are the parties that actually come to terms; fourth, who is the last buyer and who the last seller; and fifth, the price. Thus we arrive at Böhm-Bawerk's formal proposition: Price is the resultant of subjective valuations put upon commodity and price-equivalent within a market.

Unless, however, we remember what has been said in early chapters of the essential nature of value we shall be apt to stumble over this word "valuation." The price with which a buyer comes to market as the maximum which he is willing to give, does not indicate anything of the absolute amount of wellbeing which the goods he proposes to purchase represent to him. We saw that the subjective value of anything is given by the dependence of a want upon it, and that this dependence is measured by two factors: the want which

the good is capable of satisfying and the state of provision already existing to meet that want—in ordinary circumstances, the income or wealth of the valuer. To put it concretely : the valuation of 16/6, which the buyer puts on the barrel of apples in our illustration, is determined by a calculation, first, of the position the fruit takes in his household economy as compared with other forms of food, and, second, of the money figures in which the amount of his income or available wealth enables him to express this position. This, among other things, will explain how two very different classes of competitors may be the "capable" ones ; those whose needs are urgent and those whose resources are plentiful. The valuation of 16/6 may either be the expression of a poor man's necessity, interpreted and limited by the few shillings he can spare from his wages, or the expression of a rich man's whim, measured by the loose money in his pocket.[1]

[1] In connection with this the following passage is worth attention. "Goods which can only be obtained in very small quantities and which only the rich are likely to demand, will obtain the highest prices. Goods, again, of common quality suited to the wants of the poor, obtain very low prices, along with those goods of better quality which are so numerous that the poorer classes are able, to a considerable extent, to purchase them. Medium prices, lastly, will rule in the case of goods of which the middle classes are the principal buyers, while poorer people either do not compete or compete only so far as compelled by their most urgent feelings of want. It will readily be understood that changes in the economical provision and power of great classes must be followed by changes in the prices of goods. The greater the inequalities of wealth, the greater will be the differences in price. Luxuries will rise in price as great fortunes increase and fall as they diminish. . . . Thus it is that diamonds and gold stand so very high ; they are luxuries of the rich and richest, and are valued and paid for in the measure of the purchasing power of these classes. Food and iron are at the other end of the scale because they are goods for the people, their value being decided by the valuation and purchasing power of poor men."—Wieser, *Der Natürliche Werth*, pp. 44, 45.

If, then, the subjective valuations on either side do not necessarily say anything of what we might call the absolute worth of things to the valuers, much less does the price which is the resultant of these valuations. It is not even an average of the valuations. However high the valuations of buyers, and however low the valuations of sellers, in an organised market the goods will exchange at the marginal price. And however many be the excluded competitors—the buyers whose subjective valuations do not allow them to buy, and the sellers whose valuations do not allow them to sell, at the marginal price—they are unable to affect the price one way or another.

It should not be necessary to point out that the determination of price in actual life is not the *conscious* resultant of all these valuations. The analysis of price into its factors is as different from the practical synthesis of price as a statue is from an anatomist's plates. The practical man no more knows the machinery set in motion to determine each day's market quotations than the child knows the rules of grammar by which he speaks. It is the same in most economic matters. The theory of money, for instance, is one of the most difficult and complicated parts of economical science, and yet we all grow up with a perfectly definite idea of the relation which a shilling bears to English commodities in general—so definite, indeed, that when travelling in a country where there is an inconvertible paper currency and where prices are turned upside down by a protective tariff, we do not notice the leap we take when we turn the quarter-dollar note, in our mind, into a silver shilling, and calculate prices on the English basis. In the same way, a business man applies unthinkingly and unerringly all those canons

of marginal value and price which we find so puzzling.

But in the business world itself there is one great simplification of the law of the Marginal Pair. In modern industry producers do not make for themselves, but for the market, and the amount of their own product which they could use in their own consumption is insignificant. Consequently it may almost be said that such goods have no subjective value for the sellers,[1] and we lose one whole side of our valuations. But, on the other hand, this very fact enormously increases the numbers of buyers, and brings their subjective valuations all the closer. Practically, then, our law takes this form: Price is determined by the valuation of the Marginal Buyer.

It will probably be thought that only in the last paragraph have we come to the normal state of things, and so the only state of things which has any practical interest for us. All the tedious discussion about peasants selling horses, or buyers and sellers wishing to trade for just one barrel of apples each, is beside the mark, it will be said, when we consider that the questions of value which are of importance to us are questions between the innumerable persons who compete with each other in the business of making and buying and selling, and the innumerable persons who buy goods for their own consumption at fixed prices from the shops. The answer to this has already been suggested. As well might we expect to under-

[1] This is not quite true. They have subjective *exchange* value just as money has. The product of labour which has been paid by 20/ of wage has the same sort of subjective value to the wage-payer as the 20/ had. But as the professional producer anticipates demand the subjective value is not so calculable.

stand the organisation of industry by taking our stand on an omnibus in Cheapside, and watching the surging life below, as begin our study of the phenomena of value with the smooth running machinery of exchange which is the growth of generations. The only way to understand the completed theory of value is to go back to the simplest cases of exchange—perhaps even barter; find what principles are involved in all exchange; and then work out the complications and simplifications which come with developed trade. It is impossible to explain the "short cuts" till we know the round-about road.

It will not have escaped the notice of the critical reader that there are many resemblances between the law now formulated and that known as the law of Supply and Demand. It would be strange if there were not. As in ethics all theories lead very much to one practical code of morals, so theories of price must be all more or less accurate analyses of the actual transactions of the market. For instance the zone within the limits of which price is determined is, as we have seen, that lying between the valuations of the Marginal Pair. But every one will have noticed that in this zone supply and demand come, quantitatively, to equilibrium, and hence it is quite correct to say that the market price is found in that zone where supply and demand balance each other.

The resemblance will become clearer if we look at our individual determinants of price. There is—

1*st*, The Extent of Demand,—that is, the number of people who wish to buy goods because they attach a certain value to them.

2*d*, The Intensity of Demand,—that is, the subjective valuation which these buyers attach to the

commodity they wish to obtain, and the subjective valuation of the money they part with—in other words, the amount of money or income at their disposal in which to measure this absolute value.

3d, The Extent of Supply,—that is, the number of people who wish to sell goods because they attach a certain value to the money they expect to get in exchange.

4th, The Intensity of Supply,—that is, the valuation which these sellers attach to the money they wish to obtain, and which they attach to the commodity they part with.

We shall cease to wonder at resemblances, however, if we remember that our law of value cannot be a rival of any other law which has been recognised as giving, within its sphere, a satisfactory explanation of actual phenomena, except in the qualities of breadth of basis or accuracy of details. The impression which most of us, I imagine, have had in relation to the law of Supply and Demand as usually formulated, is that what it says is undeniable, but that it does not say very much. When the theory which has been developed in the preceding pages is seen to make price a resultant of Supply and Demand, but at the same time carefully to analyse these ambiguous expressions, and relate them to subjective valuations of commodities and price-equivalents made by buyers on the one side and sellers on the other, it will perhaps be admitted that it contains all that was valuable in the other theory, and at the same time shows the reason for seemingly arbitrary fluctuations of supply and demand.

CHAPTER XII

COST OF PRODUCTION

We have now to compare the law of Value at which we have arrived with that generally adopted by English economists. It is a matter of common experience that, in the case of articles manufactured on a large scale—"freely produced," or "reproducible at will"—the price always tends towards equality with the costs of their production. On this experience is the familiar law that the value of a good is founded determined by its cost. Speaking generally, Costs of Production are all the productive goods consumed in the making of a product,—raw and auxiliary materials, machinery, power, and labour. To speak more accurately we should substitute the term Expenses of Production, thus indicating that the naturally incommensurable "efforts and abstinences" are measured by the money paid for them. On this theory the value of a good comes from its *past*.

Now, on the theory above explained, we have to show that the causal connection runs the other way, from Product to Cost. Human want, it was said, is the first factor in Value. The relation of each man's resources to his varied wants determines what is the last want satisfied in each class of want, and so the Marginal Utility and subjective value of goods. The figures which buyers

and sellers respectively put on their goods determine the competitors, determine the marginal pair or the last buyer, and so determine price. Through price the subjective valuations are carried back to means of production. As the typical labourer, the peasant, measures the value of his labour by the produce he raises, or the value of his implements by the additional crop they procure, so is all value reflected back from goods to that which makes them. Thus value comes, not from the past of goods but from their future; that is to say, from the side of consumption in satisfying want. Goods stand midway between production and consumption. In the old reading it was the former term that gave value: in the new, it is the latter.

Before going further we must more exactly define the connection between production and consumption goods.

All goods find their goal in satisfying the want of man. As Roscher finely says, *Ausgangspunkt, wie Zielpunkt unserer Wissenschaft ist der Mensch.* The consumption-good then—the good which is to find its destiny, and its life-work, in ministering to human life and want—is that for which and towards which we set in motion the whole machinery of industry. From the soil or the mine downward every productive instrument is, economically, a consumption-good *in the making.* This Menger has put in terms which are now classical. He calls consumption-goods, goods of the first or lowest rank. The goods which co-operate in immediately producing these—the group of productive instruments used in the last stage of production—he calls goods of second rank. The factors of this second group, again, are goods of third rank, and so on. Thus, if a loaf is the consumption-good or the good of

first rank, the flour, the oven, and the baker's labour form the group of second rank; the wheat, the mill, the labour, and the material that makes the oven, the group of third rank; the land, the agricultural implements, the materials of the mill, etc., the group of fourth rank and so on. Now, as we know, consumption-goods receive their value from the dependence of some want upon them—from their being the condition of some satisfaction. Take, then, the good, a loaf of bread. The value of the loaf in the baker's shop is determined subjectively by its marginal utility to the consumers, and the valuations (based on this marginal utility) of buyers and sellers decide the market price at which the bread is put on the market. Looking back now at the continuity of production and consumption goods, we see that the last group of productive goods which issues in the bread is really the *loaf in the making*. If the baker had not that group he would not have the bread, and we should lose our marginal utility—the satisfaction of the want. What, then, depends on the having or losing the group of second rank? Simply the marginal utility of the finished good. Tracing back the loaf to more and more remote groups, we find, similarly, that what depends upon them all is, at different points of time, the marginal utility of the finished consumption-good: that is to say, they are all, economically, the loaf in the making. In short, value depends on a relation to human wellbeing as indicated by the satisfaction of want; and productive goods only come into contact with human wellbeing through the final member of the chain, the consumption-good. No one values the iron ore, or the ragged "pig," for what it is in itself. Ingenious and delicate as may be the machine,

no one puts together these cunning arrangements of wheels and pulleys and rollers for the sake of showing the machinist's skill, or the working of mechanical powers. Even the smooth and gossamer yarn is not a thing which can satisfy any human want. All these goods are only "good" because they are cloth, or some other consumption-good, in the making. We "value" them, not because we see the iron fabrics passing, by wear and tear of the machine, into the warp, or the threads of human life being woven into the weft, but because, with prophetic eyes, we see the web covering the otherwise bare backs of men and women, and giving up its life in ministering to theirs.

The conduction of value, then, would seem to be, from product[1] to means of production; and this would, probably, be generally recognised if every product were connected immediately with only one group of means of production. In the case of a wine grower it is easy enough to see that the value of the grapes is derived from the wine and the value of the vineyard from the grapes: that the price, for instance, at which he would let his land to a third party, or the number of labourers he could, economically, hire to assist him, is determined by average productiveness. Or suppose we value a good subjectively, say, at £100, there seems a very good reason why we should be willing to pay, say, £50 for the labour of raising raw material, £40 for manufacturing it, and £10 for delivering it. But in modern divided industry it is, of course, impossible for most of the intermediate

[1] It need scarcely be said that it is *anticipated* product: in modern circumstances it is of course impossible for the fore producers to wait on final sales, even if makers and merchants did not regularly anticipate demand; but this does not affect the logical connection.

producers to know anything about the marginal utility, or the price which the goods will obtain when finished. The labourer paid 20/ a week for lumbering will scarcely connect his wage with the price of the delicately carved cabinet which, among other final products, is the ultimate goal of his labour. Even the timber merchant, as a rule, will not make his calculations of the price he can pay for wood with any better knowledge of its final destiny. But each branch of production has an immediate product as well as an ultimate one, and in the marginal utility and price of this intermediate product it finds its value and price. Thus though the conduction of value from anticipated final product back to intermediate product, and from that back to the very first product of all, may remain hidden from each producer, the organisation of industry practically carries the information from stage to stage. The weaver finds a market value already attached to yarn, and, measuring by that, he puts a value upon his labour and the raw material for which he offers. But the cloth he weaves is the means of production for the next intermediate product, and gets its value from it again. And so the line of communication goes on down the ranks, till it comes to the final consumption-good.

The proof of this conduction is not far to seek: it is found in the common phenomenon of Dead Stock. However great the cost expended on an article, if the public will not have it, all the costs in Christendom will not give it a value; and, if the good continues to be dead stock, all the machinery and buildings by which it has been made lose their value, except in as far as they can be turned to other uses, and get another value from another product. Even labour suffers. Whatever the expense of his special training,

the labourer can give no value to his work, and loses his wage to the extent that he cannot adapt his skill to other employments. Suppose that an article, of which there is a stock, goes out of fashion, the value and the price of it fall at once. The first thing the immediate manufacturer does is to ask himself if he can reduce his costs to suit the new price: if he cannot he abandons the manufacture, and it passes probably to some man who is able to produce more cheaply, it may be by reducing wages and salaries, by new processes and more complicated machinery, or, perhaps, by employing women instead of men. In any case the cost must conform to the value.

A striking proof of this is given in the case of silver. Most people have a dim idea that silver, as one of the precious metals, has a value almost innate. Yet after 1873 mine after mine was abandoned although the ores were as rich and the reefs as plentiful as ever. What was the cause?—Simply that silver was discarded as currency in certain countries: that is to say, silver fell in the estimation of great communities, and the loss of value was carried back till the price realised by the virgin silver was not enough to pay for the mining of it.

Of course the identity of value between final product and groups of higher and higher rank is not absolute. It would be strange if it were; for where all the groups get their value from the last product, and this gets its value from a thing so inconstant as human want and so elastic as human provision, it is to be expected that the calculation which conducts value back and back, will, often enough, be mistaken. Builders tempted, by high freights at a time of sudden demand, to lay down a ship, must reckon with the possibility that,

ere it be finished, the tide of prosperity may have ebbed, and that the price realised for the ship may scarce repay the wages and prices paid in anticipation. And, besides these fluctuations which cannot be reduced to law, and are often the chances on which the employer (as distinguished from the capitalist) makes his great profits—and losses, there is one constant difference between the value of the productive groups and that of the final product; that is Interest. With this, however, we have no concern here.

CHAPTER XIII

FROM MARGINAL PRODUCTS TO COST OF PRODUCTION

THUS far the matter has been comparatively simple. We have looked at a concatenation of successive groups with one final product, and with, of course, one marginal utility and one value. But we have now to face the fact that productive groups may pass into a great number of final products, each with a different marginal utility and value. The more industry is divided, the more is this the case. Productive goods, such as coal, oil, labour, go more or less to the making of millions of products. And it is here that we find the *raison d'être* of the law of cost as a convenient abbreviated expression of a deeper law. Let us follow the matter out methodically.

A stock of productive goods, which we shall call X, is capable of producing finished products A, B, and C. The value of these products for the time is, respectively, 100, 110, and 120. Which product will determine the value of the productive unit of X?—It will be the least of the three. For, suppose so many units of the stock X get lost that it is impossible to make A, B, *and* C, the one given up will, of course, be A,—the employment of X which produces the least valuable product. Any other choice would be contrary to economic conduct. When we say, then, that means

of production get their value from their product, we must be understood as meaning the value of their final or Marginal Product.

But, again, if B and C are articles of large common manufacture, they cannot long retain their value of 110 and 120; it is merely a question of time till their value falls to 100. Here we begin to see the plausibility of the idea that cost of production determines value.

To put this concretely. A man has a farm of 90 acres divided among three crops, which, in the circumstances of the market, give him three different returns. On 30 acres he grows wheat, which, we shall suppose, yields him a value represented by 100; on another 30 acres he grows potatoes, which yield him, say, 110; on another 30 acres he grows barley, which yields him 120. What is the value of the productive group made up of his labour and one third of his land? (We leave out of account, for simplicity's sake, the other co-operating factors.) If the value were given to land and labour by the *actual* returns there would be three different values, and this really is the case where competition has not its full play. But, if there is no monopolist factor, these three values cannot be maintained. The value of the first product, 100, determines the value of the means of production, the labour and land, and it is only a question of time and competition till this value of the means of production has imposed itself on the potatoes and the barley, and reduced their price to the same comparative level as that of wheat.

Here, then, we have the explanation of the law of cost of production. It is quite true that, in the case of goods reproducible at will, or, in our vocabulary, in cases where substitutes are immediately available

either by exchange or from production, the costs of production determine the value, and the formula is both true and convenient. All the same, it is merely a particular instance of the universal law of Marginal Utility. In all cases the marginal utility of the last product economically produced determines the value of the means of production; these means of production then become the intermediate standard; and the value of goods produced from them cannot, in the long run, be higher than the value got from the marginal product.

The practical working of the law may be seen from a personal experience of the writer. In the cotton thread trade there was for years a demand for a thread which should be a fair substitute for the much more expensive article, sewing silk. The prices of cotton thread and of silk thread respectively gave housewives and shopkeepers a rough guide to a subjective valuation, and the figure put upon this demand was something like 20/. (It could not be more for the reason that no cotton substitute was able to take the place of silk in any but a few of its least important uses.) This price, offered by shopkeepers to travellers, told the cotton-thread manufacturers what they could offer to cotton spinners for superior yarns, and what they could afford for more expensive chemicals and polishing machinery. As consequence, after many experiments the silk substitute was produced, and sent into the market at a price of 20/ per gross. But once those superior yarns were made, the cotton spinners, increasing the production of them, found other outlets. Before long the thread makers saw that this silk substitute was not the *marginal* product of those particular yarns: that in fact other cotton threads of lower quality price were being made from the same yarns. These

yarns then entered into the cost of silk substitute with the predetermined lower value given them by the other finished goods, and in a short time the price of the silk substitute fell from 20/ to 18/, in conformity with the value put upon the yarns by the new marginal product. The same phenomenon occurs whenever a demand for a new article or a modification of an old one arises, and is interpreted by the enterprise of manufacturers.

CHAPTER XIV

FROM COST OF PRODUCTION TO PRODUCT

If, finally, we take the case of those most many-sided productive goods, Iron and Labour, the proof of our theory may be considered fully tested.

Leaving out complementary factors, which do not disturb the action of the law and would complicate our statement, suppose that iron is the sole productive good in the making of those various iron wares we find selling at different prices in the ironmongers' shops. The general opinion is that it is the price of iron—disregarding other factors—that determines the price of iron wares, from nails to kitchen ranges. And what we have to prove is that the conduction of value really runs in the opposite direction—from nails and ranges to raw iron.

Suppose for the moment that the prices obtainable for these products range from 40/ to 48/ for a given unit. That is to say: the ton of iron, when manufactured into, say, nails fetches 40/, when manufactured into other articles, it fetches respectively 42/, 44/, 46/, 48/. These prices are the result of the condition of the market at the moment. The manufacturers of these products — we shall call them respectively A, B, C, D, and E—represent the demand

for iron, and the price they will be able to offer for iron depends on the prices obtained by these articles.

On the other hand, the supply of raw iron held in store will naturally pass to the most capable buyers—the most capable manufacturers of iron wares—at the valuation of the last buyer. Suppose the stocks of iron are sufficient to meet the demand of E, D, and C, the valuation of C, the last buyer, will determine the price of iron at 44/ per ton. So far all has gone to show that it is the iron wares—through the marginal product—which determine the price of the productive good, iron.

But now we come to a feature which gives countenance to the old theory. So long as the prices of iron wares—always assuming that iron is the sole productive group employed in the manufacture—range from 40/ to 48/, while the market price of iron stands at 44/, it is a proof that competition has not done its work. What naturally follows? Producers D and E who are getting respectively 2/ and 4/ advantage over cost will increase the output of their particular iron wares till over-supply brings down the price to 44/. On the other hand, producers A and B, who get respectively 4/ and 2/ less than cost, will curtail their production, till decrease of supply raises their prices to 44/. Thus, from above and from below, competition is always levelling prices to the cost of production. Here it is quite true that cost of production imposes itself on product. What is forgotten is that the cost of production is itself first determined by the marginal product.

There is, however, a stronger argument for the old theory. Stocks of iron are not a fixed quantity. If new and productive mines are opened, or new pro-

cesses discovered, the supply of iron increases, and prices of all iron products will certainly fall. Does this not prove that the value of iron wares is regulated by the cost of producing iron?

Here we have a difficult subject to disentangle, and it will be as well to simplify it. Suppose a farmer is supplying a small village with potatoes, and by a new method of cultivation manages to double his crop for the former expenses of labour. What will happen as regards the price of potatoes? From our knowledge of what competition does in large production we are apt to say: "prices of potatoes will fall 50 %." This may be the final result, but not necessarily so, and at any rate the movement of price is instructive. The farmer is now able to sell at half the price if he wishes, but it is his interest to keep up the price as long as he can. What, however, will certainly happen, in normal circumstances, is that he will increase his production of potatoes. But it is not the case that, whatever nature and man produce, men will desire: it is, rather, that what man wants he usually sets nature and men to produce. To take off the extra supply of potatoes, then, the farmer must find a wider circle of demand than before; but there is nothing to lead us to suppose that there is any wider circle of demand at the old price. What we may safely suppose is that a great many housewives will buy extra potatoes if they can get them cheaper, but, in any case, the decision lies absolutely with them whether they will take more or not. It is easy to fall into the mistake of thinking that there will be a demand for everything produced if it is sold at a reasonable price, but this idea simply arises from the fact that producers anticipate desire and tempt demand. In the present case demand must

come from some level of want which was not satisfied at the former price, and is ready waiting to take up the extra supply if the price is brought down.

If, however, as may very well happen—not in the case of potatoes probably, but in large articles of limited consumption—there is no such circle of demand at lower levels, what will happen is that the farmer will dismiss half the hired labour, produce the same quantity of potatoes as before, and maintain the former high price. For farmers, like other business men, do not put themselves on "salaries," and give the public the benefit of all cheapening of production. It is characteristic of the capitalist employer in all departments that he speculates on having a profit, and thinks no profit too high, just because, as a speculative gain, it may be balanced any year by as great a loss. It is contrary, then, to all experience to think that employers will voluntarily reduce prices—any more than they will voluntarily raise wage or pay higher interest—because costs have decreased. They only do so under the compulsion of fear that their rivals will cut the feet from under them. Where competition is active it will often seem as if reduction of costs were almost immediately followed by fall in prices of products, but, in the last resort,—and that is what concerns us in seeking for a universal law of value—the new prices are determined by the lower and wider levels of want which are ready to take up increased supply of the majority of ordinary commodities.

Transfer the argument now to the production of iron. If new mines are opened the first phenomenon is not a fall in the price of iron, but an increase of supply. If the demand from the side of iron wares has hitherto been met at the price—as we must assume

—the new extra supply will not be taken off at the price, and there is, for the moment, over-supply. At this point the lower level of demand for iron wares hitherto unsatisfied asserts itself, and offers its subjective valuation. This is accepted: a new marginal employment is found for iron. The price of this marginal product now determines the price of the productive good iron, and in time it is possible for competition to impose this marginal value on all iron products, and the price of iron wares generally falls.

Lastly, take the case of Labour. Here we have a productive good of the same nature as iron in that it is capable of employment in an infinite number of ways. The labouring power of a nation, like all its other productive goods, goes steadily into the most remunerative employments one after another. But of all products labour shows most evidently that it has no predetermined value, but gets its value entirely from what it produces. Consequently, the price of labour is, naturally, as variable as the price of its products. Some products of labour will for the time fetch a price equal to 10/ a day of wage; others, prices equal to 9/; and so on down the scale, perhaps, to 3/ per day. If the available labour as a whole is taken up at that wage, those products of labour which pay 3/ per day of price to labour will assert themselves as the marginal products, and that wage will seem in its turn to determine the value of other products. But if population goes on increasing, other things remaining the same, and a new supply of labour comes forward, this labour will inevitably seek lower levels of demand—for, of all goods, labour is the one that will not "keep." On the other hand, there are at any time endless wants waiting on satisfaction, but not able to pay the

marginal cost of satisfaction, the 3/ per day. Consequently, as buyers with a lower valuation than the marginal one, they do not affect price. But now the new surplus supply of labour and the unsatisfied layer of wants come together. Labour is set to satisfy wants that offer, say, 2/6 per day of wage for their satisfaction, and the products thus resulting become the marginal products. Happily for the labourer competition cannot do its perfect work where the commodity bought and sold is human life: but if labour were entirely mobile it would only be a question of time till the marginal product fixed the wage of labour generally, and wages fell in harmony with the new marginal costs—the low wage for what the labourers produced being, let us hope, more than recouped by the universal fall in prices of what the labourers consumed.

CONCLUSION

THUS we have found that what determines the value of productive goods where the product is one single good directly connected with them, and what determines it in the most complicated cases where the conduction of value is, first, to means of production and, then, back again to product, is always the marginal utility, the utility of the marginal product. As the vineyards of Tokay get their value from the wine of their grapes, and as cotton gets its value from the bare backs it covers, so do iron, coal, and labour get their value in the last resort—far as may be the course from post to finish—from the last employment into which they enter.

But the emphasis necessary to prove a difficult proposition may have given the impression that the present law is put forward in opposition to the old law of costs of production, and that both laws cannot be true. It may, then, be as well to remember that the whole of this book is a quest for the *fundamental* law of value. In the complicated circumstances of modern industry it is not easy to see the real nexus of cause and effect. In a developed market, where production speculates on demand, value naturally assumes the appearance of being determined beforehand. Human wants are tempted, as it were, instead of giving the initiative. Thus the impression is easily got, and

with difficulty got rid of, that human want will pay the price which production dictates, the fact being that production must, in the long run, conform to the nature and measure of human want. And thus also, I am afraid, comes the idea, certainly common among the employing classes, that wages are dictated by them from above, instead of being produced by the labourers themselves—an idea degenerating in many cases into the belief that combinations of workers to secure their share in the product are illegitimate interferences with capital.

What is contended is that the Law of Cost is a good working secondary law as regards articles reproducible at will under large and organised production; that is, of course, as regards the vast majority of goods produced. But it has always been taught by economists that it did not hold outside these cases. On the other hand, the Law of Marginal Utility is claimed as the universal and fundamental law of value. It has not been difficult to prove its validity in the simpler cases, and if now, in the later chapters, our law has been shown to be the real background of the empirical Law of Cost, the contention of the book is justified.

And thus, as representing, however humbly, the modern Austrian school, I may close with the words written by our own Jevons twenty years ago. "Repeated reflection and inquiry have led me to the somewhat novel opinion, that *value depends entirely upon utility.* Prevailing opinions make labour rather than utility the origin of value; and there are even those who distinctly assert that labour is the *cause* of value. I show, on the contrary, that we have only to trace out carefully the natural laws of the variation of utility, as depending upon the quantity of commodity

in our possession, in order to arrive at a satisfactory theory of exchange, of which the ordinary laws of supply and demand are a necessary consequence. This theory is in harmony with facts; and, whenever there is any apparent reason for the belief that labour is the cause of value, we obtain an explanation of the reason. Labour is found often to determine value, but only in an indirect manner, by varying the degree of utility of the commodity through an increase or limitation of the supply."

APPENDIX TO PAGE 27

WIESER'S chapter on the paradox of value (*Natürlicher Werth*, i. §§ 7 and 10) deserves more space than could appropriately be given it in the text. I therefore give the substance of it here. Suppose, he says, that I have a certain good the employment of which yields me a utility represented by 10, and that I add successively 10 similar goods to my stock, the marginal utility at each addition diminishing by 1. The value of the stock will stand successively at 10, 18 (9 × 2), 24 (8 × 3), 28 (7 × 4), 30 (6 × 5), 30 (5 × 6), 28 (4 × 7), 24 (3 × 8), 18 (2 × 9), 10 (1 × 10), 0 (0 × 11). Here, obviously, each added good brings a smaller utility than the last, and at each addition the marginal utility, and with it the value, of the unit of goods falls. But while the value of the single good thus steadily falls, the value of the whole stock describes a peculiar course: it rises from 10 to 30, and then falls from 30 to zero. This phenomenon of increasing wealth accompanied by decreasing value is a paradox from which we shall not escape so long as we consider value a simple and positive amount. Value arises in the combination of two elements, a positive and a negative. It is a combined amount, or, more accurately, a residual amount. The positive element in value is the gratification from the use of goods. This gratification is subject to a natural law of "diminishing returns:" as the first draught of any pleasure is the most grateful, and the gratification weakens at every repetition, so a single good

stands highest in our estimation, and each addition to the stock occupies a lower place. The value of the stock successively may be represented thus—

When the stock consists of	1	2	3	4	5	6	7	8	9	10	11	goods,
the total gratification is	10	19	27	34	40	45	49	52	54	55	55	units.

This would be the movement of value if value were simply positive: beyond a certain point additions to the stock would *add* no value, but they would not cause any *loss* of value, and the highest point would come last in the series. But there is another, and a negative element in value.

It arises from the indifference which we naturally feel towards goods. To man only the human is really important: by nature his thought, his sympathy, is for himself; for *things* he only cares, in the first instance, as he finds in them any relation to human interests and fate. This interest may take the form of sympathy with pain or pleasure in the animal world; or that of religious and poetic feeling suggesting the unity of all life; or, lastly, that of economic valuation finding in things the auxiliaries and conditions of human wellbeing. This natural indifference is so great that it requires a peculiar compulsion before we look at anything outside us as having importance or value. Simple utility is not enough: if useful things are present in superfluity we think no more of them than we do of the sand on the seashore. It is only when our wellbeing is not assured that an interest awakens in the things on which it is seen to depend, and we exert ourselves to acquire these things. The overcoming of this natural resistance, then, is something with which we have to reckon. The greater our need, the less the resistance: in cases of extreme need it disappears altogether, and we identify our fate with the fate of the goods which "are life or death to us." The resistance is at its height when we have everything in excess, and feel no thanks due to goods which cannot help ministering to our enjoyment—for there is no reason why we should value additional goods unless they give us additional wellbeing. Between these two extremes the interest we

transfer to goods is proportioned to the interest we take in what they do for us. But we do not attach to them the whole of the interest they really have for us: we do not require to do so, for goods of a stock are not estimated according to their actual importance, but according to the marginal utility they afford. All utility over the marginal utility is kept back from the value of the goods, and this gives us the figures for the strength of the resistance: the negative element is equal to the surplus value deducted. Thus when the stock consists of two goods the actual gratification is $10 + 9 = 19$, while the calculation of the value is $9 \times 2 = 18$, leaving a surplus of 1: when the stock consists of 4 the actual gratification is $10 + 9 + 8 + 7 = 34$, but the value is $7 \times 4 = 28$, leaving a surplus of 6, and so on. Putting these two scales together we have the following—

	1	2	3	4	5	6	7	8	9	10	11
Positive (+)	10	19	27	34	40	45	49	52	54	55	55
Negative (−)	0	1	3	6	10	15	21	28	36	45	55
Residual (+)	10	18	24	28	30	30	28	24	18	10	0

That is to say, combining the positive and the negative elements, we get Residual Amounts corresponding to the marginal scale. Thus we see that the value of a stock increases with the increase of its units so long as the positive element is in the ascendant: *i.e.* so long as the increment of value obtained from the newly-acquired good is greater than the decrement of value which its addition causes to every good already in the stock. We may call this the "Up Grade" of the movement of value. On the other hand the value of a stock falls in the converse circumstances, and this marks the "Down Grade" of value. Twice, then, in the development of value is zero touched—when we have nothing and when we have all: in the former case because value has no object to which to attach; in the latter, because there is no subjective motive to attach it to anything. In practical life we have mostly to do with the up grade of value. In most of our possessions we are so far from superfluity that increase of quantity involves increase of value: while the individual value of the single good sinks, that of the stock rises. And this is the reason why we usually measure wealth and riches by the sum of the values

of their elements, and count it hard if the value of our property and our returns goes down. And this, again, is why it seems paradoxical when we find that the amount of goods and enjoyment of wealth and welfare has increased while their "value" has gone down. It does on rare occasions happen that individual branches of economy are for the moment forced on to the down grade—as in the case of phenomenal weather producing a miraculous crop, or the discovery of new mineral strata of unsuspected richness, or great discoveries in machinery and processes, or, perhaps, the fact of producers extending too fast from overreaching greed or foolish overestimate of demand. But it is probable that the conditions of industry as a whole will never be favourable enough to bring production so near excess that the down grade of value will be permanently entered on. All the same, the existence of what we call the "free gifts of nature" allows us no room to doubt that value disappears whenever superfluity is reached, and this gives us the best confirmation of the statement that it must decrease as we come near it.

THE END

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